NATUR CYMRU
Nature of Wales

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- Tycanol NNR
- Abergwesyn Commons
- Bird news
- Reptiles
- Enwi gwyfynod
- Competition runners-up
- Books, News, Comment ...

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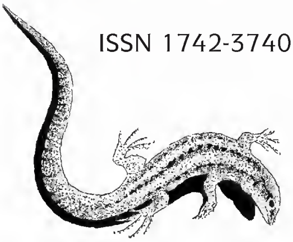

NATUR CYMRU

Nature of Wales

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Bwriedir i *Natur Cymru* hyrwyddo a chyfnewid gwybodaeth am fioamrywiaeth a hyrwyddo dadl. Os oes gennych wybodaeth, erthyglau neu waith celf y credwch a allai fod o ddiddordeb i'r darllenwyr, cysylltwch â'r Golygydd os gwelwch yn dda.

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NATUR CYMRU EDITORIAL GOLYGYDDOL

After an unbroken stint of ten years as Editor, James is taking a break to work on a secret project and I have the privilege to be guest editor for the next two editions of *Natur Cymru*. Like a relay race he handed over a list of contents with names and a whole host of tips and advice. I always wondered what editors do and I'm beginning to get the idea. It's a bit like putting on a show in which everything has to be OK on the night, no matter what happens or not!

As part of the editorial handover I asked about 'themes' – some editions have them whilst others don't. For the last edition the theme was 10-year reflections, and before that it was Pembrokeshire, but we don't force a theme for the sake of it so this time it's just a collection covering a broad range of subjects.

Part of the editorial role is to achieve a balance without favouring particular species or habitats and ensuring each gets its turn. As such Winter no. 41 will focus on the marine which, with 12 nautical miles of territorial waters representing 42% of Welsh geography, has received relatively small attention in recent editions.

Nature in Wales, the journal of the West Wales Field Society, was published continuously from 1955 to 1987 and recently all 83 volumes were digitised and put online by the National Library of Wales www.llgc.org.uk. This is an invaluable searchable resource and we will be using it as the basis for a series of '50 Years Ago' articles starting with Leatherback Turtles (see page 3). It's amazing to think how much science has developed over that time, how attitudes have changed and that the human population more than doubled; it was 3 billion in 1960 and is projected to be 7 billion in October 2011.

Huw Jenkins
Rheolwr Marchnata* Natur Cymru *Marketing Manager

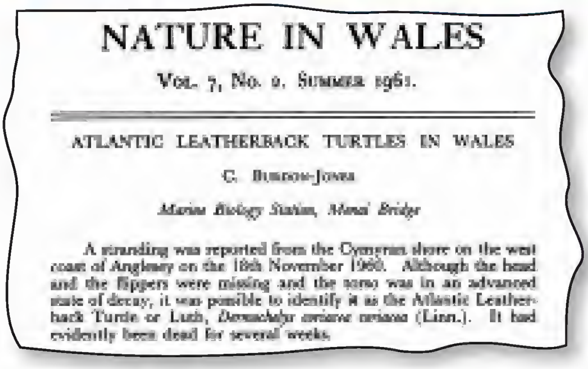
Ac yntau wedi bod yn Olygydd am ddeg mlynedd yn ddi-dor, mae James yn awr am gymryd hoe fach er mwyn gweithio ar brosiect dirgel. Braint fawr i mi yw cael golygu dau rifyn nesaf *Natur Cymru*. Fel mewn ras gyfnewid, mae o wedi trosglwyddo pentwr o wybodaeth ddefnyddiol a llu o awgrymiadau ardderchog. Rydw i wedi gofyn i mi fy hun lawer gwaith beth yn union mae golygydd yn ei wneud, ac erbyn hyn mae gen i syniad go dda. Tebyg iawn i drefnu sioe pan mae'n rhaid i bopeth fod yn iawn ar y noson, ni waeth be all ddigwydd!

Wrth i'r awenau golygyddol gael eu trosglwyddo i mi, holais am 'themâu'. Mae thema arbennig yn perthyn i ambell rifyn, a dim thema o gwbl i rifyn arall. Thema'r rhifyn diweddaraf oedd cnoi cil dros y deg mlynedd diwethaf, a chyn hynny Sir Benfro. Ond nid ydym am wthio thema ar neb; felly, y tro yma, casgliad o erthyglau'n sôn am bynciau amrywiol sydd gennym ni.

Un o gyfrifoldebau golygydd yw sicrhau cydbwysedd heb roi ffafriaeth i rywogaeth neu gynefin arbennig, er mwyn i bopeth gael sylw yn ei dro. O'r herwydd, bydd rhifyn y Gaeaf (rhif 41) yn canolbwyntio ar y môr. O gofio bod gennym ni ddyfroedd tiriogaethol yng Nghymru sy'n ymestyn am 12 môr-filltir o'r arfordir, a bod hyn yn cynrychioli 42% o Gymru, nid yw'r amgylchedd arbennig yma wedi cael llawer o sylw yn rhifynnau diweddaraf y cylchgrawn.

Cafodd *Nature in Wales*, cylchgrawn Cymdeithas Maes Gorllewin Cymru, ei gyhoeddi'n ddi-dor rhwng 1955 ac 1987, ac yn ddiweddar cafodd yr 83 cyfrol eu digido a'u rhoi ar-lein gan Lyfrgell Genedlaethol Cymru www.llgc.org.uk. Dyma adnodd amhrisiadwy, a byddwn yn ei ddefnyddio fel sail i gyfres o erthyglau '50 mlynedd yn ôl', gan ddechrau gyda chrwbanod môr cefn-lledr (gweler tudalen 3). Yn ystod yr hanner can mlynedd diwethaf mae gwyddoniaeth wedi datblygu'n aruthrol, mae agweddau wedi newid ac mae ein poblogaeth ni, fodau dynol, wedi mwy na dyblu. Yn 1960, roedd yna 3 biliwn ohonom, ond y disgwyl yw y bydd yna 7 biliwn erbyn mis Hydref 2011.

FIFTY YEARS AGO



NATURE IN WALES

VOL. 7, No. 2, SUMMER 1961.

ATLANTIC LEATHERBACK TURTLES IN WALES

C. BURDON-JONES

Marine Biology Station, Menai Bridge

A stranding was reported from the Cymyran shore on the west coast of Anglesey on the 18th November 1960. Although the head and the flippers were missing and the torso was in an advanced state of decay, it was possible to identify it as the Atlantic Leatherback Turtle or Luth, *Dermochelys coriacea coriacea* (Linn.). It had evidently been dead for several weeks.

Journeying with the leatherback turtle

The leatherback turtle has been a visitor around the Welsh coast for much more than 50 years. Its presence in our local bays and shores has sparked a few questions over the last five decades; are they an indigenous species? Why are they here? Can I eat them? And slowly, through the years, each of these questions has been answered, thanks to a development in the technology we use for tracking animals and the increased understanding of conservation needs.

Once upon a time, in 1961, in a land not too far away, scientists like C Burdon-Jones puzzled over the stranding of this magnificent creature on the Anglesey coast. Despite its advanced state of decay, the animal was brilliantly distinctive as a leatherback turtle, with its layer of hundreds of interlocking bony platelets rather than the hard exoskeleton of other turtles. This leatherback was just over three and a half feet, a modest size for this species, but for Burdon-Jones and his colleagues it was still a challenge to haul it up the shore to be buried.

Burdon-Jones's article in *Nature in Wales* (Summer 1961) describes their wide ranging territory from the coast of Nova Scotia to Argentina's Mal del Plata, and all the way across to Britain. But the article does go on to question what these great reptiles are doing off the Welsh coast, confirming how little was then known of their feeding habits and behaviour in the water.

The article ends, somewhat somberly, with the notion that these animals are too few and too unappetizing to be of any economic value to Wales, despite being hunted in areas of high abundance for the oil that their skins and shells produce.

Fast-forward to 2005, and Jonathan Houghton casts another look at the leatherback turtle around Wales, (*Natur Cymru* 14, Spring 2005), this time armed with the Sea Mammal Research Unit's new-fangled transmitters, which provide a wealth of information on depth, duration, swim speed, light levels and temperature. This technology allowed Jonathan's team to uncover parts of the enigma that surrounded the turtle's activities. The migration patterns of the animals were tracked north from the Caribbean basin all the way to Britain and more to the point, the coast of Wales. The team's most significant breakthrough came from aerial surveys, which located large flotillas of barrel jellyfish corresponding with turtle sightings.

These discoveries explained why the turtles would journey so far north and what they did in our temperate summer waters. But a more staggering change in 50 years is how we view animals today. Where many creatures used to be viewed as a commodity for human use, today's scientists work from the principle that animals have an intrinsic right to exist without being useful to people.

Jonathan's article finishes, not by suggesting that our restaurants may benefit from these seasonal visitors, but by urging you to keep your eyes open for jellyfish blooms when you're out at sea, because the leatherbacks may not be far behind. Looks like we have come a long way.

***Kamelia Kountcheva** recently did work experience with* Natur Cymru *as a post-graduate student.*

BTO Cymru

New office in Wales

Edmund Fellowes

Cuckoo

As the British government becomes devolved there is a need for this to be reflected in organisations such as the British Trust for Ornithology (BTO). **KELVIN JONES** *reports on the creation of BTO Cymru with its new office at Bangor University.*

Wednesday 20th July was a landmark day for Welsh birds with the launch of the British Trust for Ornithology's new office in Wales. This will provide a national focus for research, enabling the birdwatchers of Wales to inform Welsh Government policy-making through the records they collect and submit to the BTO.

The BTO was formed in 1933 by a group of eminent ornithologists led by Max Nicholson. Nicholson saw great potential in cooperative birdwatching as a means of informing conservationists. The Trust was originally based in Oxford, before moving in 1963 to Beech Grove, a large house in Tring (Hertfordshire). Today it is based at Thetford in Norfolk and has a regional office for Scotland, and now one for Wales at Bangor University.

The BTO is an independent research charity which provides scientific information and advice about our birds. Whilst the Trust has a number

of highly qualified scientists, the field work is undertaken by volunteers. It is this huge volunteer base that allows the BTO to have such extensive and, in some cases, very long-running data sets. From early counts of rookeries and heronries, the Trust took on the administration of the National Bird Ringing Scheme, and now has several monitoring schemes which appeal to a wide range of people.

The work of the BTO

There are a number of core volunteer surveys. Fieldwork has just finished for the *Bird Atlas 2007-11*. This ambitious project builds upon the three previous atlases (two breeding season and one winter), and seeks to record the distribution and abundance of all the birds of Britain.

BirdTrack is a great way to record your daily birdwatching and make your records available to the scientific community. It easily allows you to record where you watch and more importantly what you see, in an intuitive manner. It also helps you submit data to your local bird recorder and keeps your sightings in a simple one-stop shop for your records.

The *Breeding Bird Survey* (BBS) is the major national survey for measuring the breeding populations of land birds in the UK, year on year. Thousands of volunteer birdwatchers make standardised counts during two visits to randomly located sites (1km squares) during the breeding season: these enable the monitoring of changes in numbers of over 100 widespread bird species. BBS has now been enlarged so that volunteers can enter both mammal and butterfly records if they wish.

A good example of the effectiveness of BBS is the 2010 index for the amber-listed Redstart: its population reached the highest level in Wales since this survey began in 1994. This is due perhaps to above-average rainfall in their wintering area, the Sahel region south-west of the Sahara. This increase in redstart numbers is in contrast to the decline in populations of pied flycatcher and wood warbler, two other summer migrants which nest in our sessile oakwoods. The figures also showed that 2010 was a good summer for many other birds in Wales, with Blackcaps, for example, showing a 22% increase over the previous year, and Tree Pipits and Linnets also showing an upward trend.

Garden Birdwatch monitors the changing fortunes of birds and other garden wildlife through the network of 'citizen scientists'. Observations collected by Garden Birdwatchers have charted the decline of the house sparrow and rise of the woodpigeon, and have alerted conservationists to the impact of an emerging disease in greenfinches. There are currently 16,000 volunteers charting the fortunes of garden birds in what is becoming a very important habitat throughout Britain.

John Harding

Pied Flycatcher

Jill Pakenham

Linnet

These regular and systematic counts help conserve these wetlands and the birds they support, fulfilling both a moral and legal obligation to safeguard their futures.

The *ringing scheme* began in 1909 as two schemes, one at Aberdeen University by Arthur Landsborough Thomson, and the other by James Witherby, editor of *British Birds* at the time. The Aberdeen scheme ended during the First World War, and the *British Birds* scheme was transferred to the BTO in the 1930s. In the pioneering days, ringers set out to answer basic biological questions: where do our summer migrants spend the winter, where do our winter visitors breed? These are still key questions for conservation. We know the answers for some species but not all. The development of technology has today allowed tiny satellite-linked transmitters to be fitted to the cuckoo (amongst other species). In 2011 these are revealing the tracks taken by cuckoos to their African winter homes. All ringers undertake a rigorous period of training, in which the welfare of the bird comes first. It requires a high level of commitment: demonstrations of ringing are held routinely at reserves and Visitor Centres, as well as taster sessions for potential new recruits.

The *nest record scheme* is another cornerstone of the BTO's integrated approach. Volunteer nest recorders count eggs and chicks in nests they find. This allows the accumulation of vital data which show the changes in breeding success from year to year. As with ringing, the welfare of the birds is paramount and visits to nests are made with great care.

Individually these are all important schemes, but when the data are looked at as a whole, it gives a thorough and comprehensive picture of what is happening with our birds. It is these data that are invaluable to the decision-takers and policy makers.

The *Heronries Survey* is the UK's longest running survey, having begun in 1928. The aim is to collect annual nest counts of grey herons and now the expanding colonies of little egrets. As top predators in the freshwater food chain, both these species only thrive where there is ample prey, and provide a valuable indicator of the health of our freshwater environments.

The *Wetland Bird Survey* (WeBS) monitors the UK's internationally important non-breeding waterbirds. Following on from a tradition that began in 1947, around 3,000 volunteers regularly, on synchronised dates throughout the winter, count all wetlands. Located on some major flyways for Arctic nesting species, our wetlands and estuaries attract large numbers of waterbirds, especially during winter when they benefit from our relatively mild climate.

BTO Cymru will be based at Bangor University. This will allow us to make contact and hopefully interact with the next generation of conservationists, both at Bangor and other Welsh Universities. The office is currently staffed by Kelvin Jones, the Welsh Development Officer, and he will shortly be joined by research scientist Dr Rachel Taylor, who will head up the BTO's scientific research in Wales. Dr Taylor is also a bird ringer, with a special interest in seabirds and waders.

If you would like further details of how to participate in any of the BTO's surveys visit www.bto.org and navigate to the volunteer survey pages. If you would like a chat about taking part in any of the surveys contact Kelvin at **kelvin.jones@bto.org**, or at a number of events being held throughout Wales.

Plans for BTO Cymru

BTO Cymru will seek to build upon the foundations that already exist in Wales. By recruiting, training and supporting our volunteer network, we hope to be able to answer questions specific to Welsh birds. Think of Wales and what comes to mind? Dippers, pied flycatchers, red kites and the awesome seabird colonies off Pembrokeshire. By engaging with new volunteers throughout Wales we can increase our knowledge of Welsh birds which will allow meaningful independent data to be the cornerstone of any conservation initiatives or policy.

Kelvin Jones *is a lifelong birder and former police officer who, for a great deal of his service, undertook additional duties as a Wildlife Crime Officer due to his passion for nature. He is a bird ringer concentrating particularly on breeding raptors, winter waders and a 'constant effort ringing' scheme for passerines. He also chairs the Wales Rare Breeding Birds and Raptor Study Group.*

John Harding

Redstart

Cyfaill newydd i gadwraeth yng Nghymru

Mae BTO Cymru yn bwriadu helpu gwirfoddolwyr i ddylanwadu ar bolisïau Llywodraeth Cymru drwy'r cofnodion a gesglir ganddynt. Datblygu cydweithrediad rhwng adarwyr, er mwyn creu sail gadarn i waith cadwraeth, oedd nod Max Nicholson pan sefydlodd y BTO yn 1933.

Ymhlith prosiectau'r BTO mae'r *Bird Atlas* blynyddol, Bird Track sy'n galluogi pobl i gofnodi arsylwadau dyddiol yn rhwydd, y *Breeding Bird Survey* sy'n cofnodi newidiadau yn niferoedd dros 100 o adar cyffredin, ac a ddangosodd eleni bod niferoedd y Tingoch yng Nghymru ar eu huchaf ers cychwyn yr arolwg yn 1994, y *Wetland Bird Survey* sy'n cynnwys 3,000 o wirfoddolwyr, y *Nest Record Scheme* a hefyd y *Ringing Scheme* a gychwynnodd yn 1909 ond sy'n dal i ateb cwestiynau newydd, gyda chymorth technoleg erbyn hyn – fel y dangosodd prosiect y gog eleni, lle gosodwyd teclynnau tracio ar gefn adar er mwyn eu dilyn i'w tiroedd gaeaf yn yr Affrig. Mae 16,000 o bobl yn rhan o'r *Garden Birdwatch* ac mae'r *Heronries Survey*, a ddechreuodd nôl yn 1928, yn allweddol am ei fod yn dangos pa mor iach yw'n dyfroedd croyw gan fod crëyrod ond yn magu os bydd digon o fwyd ar eu cyfer.

Gyda'i gilydd mae'r cynlluniau'n rhoi darlun clir o'r hyn sy'n digwydd o'n cwmpas. Nod BTO Cymru yw tyfu'r rhwydwaith o wirfoddolwyr er mwyn cael rhagor o wybodaeth wrthrychol am ein hadar.

Gwyfynod, glöynnod byw a'r angen am enwau

Tasg anferth yw paratoi rhestr o enwau safonol ar blanhigion a chreaduriaid. Mae'n gofyn am gryn amynedd yn ogystal â diddordeb mewn ymchwilio - ac efallai hoffter o drafodaeth a'r gallu i fod yn ddiplomydd ar adegau hefyd! Mae **DUNCAN BROWN** *yn aelod o griw bach diwyd sydd wedi bod wrthi'n ymlafnio ers blynyddoedd i lunio cyfrolau o enwau – ac mae'r diweddaraf yn ymdrin â glöynnod, gwyfynod a gweision neidr. Yma mae'n disgrifio'r gwahanol heriau sydd wedi bod ynghlwm wrth y gwaith dros y blynyddoedd.*

Richard Becker

Cathan y gwernos *Furcula bicuspis* Alder kitten

Duncan Brown

Pwtynrhwyllog
Eupithecia venosata venosata
Netted pug

Nid yw'n brofiad anarferol i'r rhai sy'n credu eu bod nhw'n arloesi yn eu maes i ddarganfod yn fuan nad ydynt yn arloesi o gwbl ond yn gweithredu fel rhan o don sydd yn llifo p'run bynnag o'u cwmpas. Rhyw brofiad felly ddaeth i'n rhan ninnau ar ôl i ni gyhoeddi rhestr o enwau Cymraeg ar y gwyfynod yn 2002 ar ran Cymdeithas Edward Llwyd (y drydedd gyfrol yn 'Cyfres Enwau Creaduriaid a Phlanhigion', sydd yn rhestru enwau safonol ar rywogaethau cynhenid).

Bu naturiaethwyr yn ceisio rhannu eu gwybodaeth a'u profiad gyda chynulleidfa ehangach yn y Saesneg ers tro, trwy gasglu, bathu a safoni enwau ar greaduriaid nad oedd ond enwau Lladinaidd astrus arnynt cynt. Bu'r naturiaethwyr hyn, er enghraifft, yn bathu enwau ar y mwsoglau a'r pryfed dwy adain (*Diptera*) er mwyn cryfhau'r diddordeb yn y grwpiau hyn gan obeitiho y byddai hyn, yn y pen draw, yn arwain at well cadwraeth ohonynt. Maent yn ymddangos fel petaent yn llwyddo. Dyma gyd-destun felly ein gwaith ni o safoni (ac weithiau bathu o'r newydd) enwau Cymraeg ar rywogaethau yn gyffredinol, ac yn yr achos penodol dan sylw, ar y gwyfynod, y glöynnod byw a'r gweision neidr. Yn ein hachos ni wrth gwrs, cyrraedd siaradwyr Cymraeg yw'r nod, ac efallai, i rai ohonom beth bynnag, mae cyfrannu at warchod a chynnal iaith fregus hefyd yn rhan o'r agenda.

Bu'n egwyddor gennym o'r cychwyn, wrth safoni, i ddefnyddio enwau – neu ffurf ar enwau - sydd yn bodoli eisioes mor bell ag y bo hynny'n bosibl. Yn wahanol i'r sylfaen cyfoethog oedd ar gael i ni o enwau Cymraeg ar y planhigion ac anifeiliaid asgwrn-cefn, doedd dim deunydd crai o'r fath fel cynorthwy i ni yn achos y gwyfynod o gwbl, a phrin iawn ydoedd yn achos y glöynnod byw. Er hynny, mi roedd 'na restr gyflawn, gyfoethog a hir sefydledig o enwau Saesneg ar y gwyfynod amlycaf, a oedd wedi ei etifeddu o Oes Fictoria. Yn gam neu'n gymwys, rhaid oedd dibynnu ar yr enwau hyn yn bennaf wrth lunio'r rhestr enwau Cymraeg. Arloeswyr y maes hwn yn Saesneg oedd ficeriaid a rheithoriaid Eglwys Loegr y cyfnod.

Ar un wedd, roedd y cyfoeth o enwau anifeiliaid asgwrn cefn a phlanhigion - enwau cyfoes, enwau rhanbarthol ac enwau hanesyddol - a fu'n ffynhonnell bwysig i ni yn y gwaith blaenorol, yn rhyw fath o felltith yn ogystal â bendith. Yn achos y planhigion, yn fwyaf arbennig, fe wnaethom sylweddoli'n fuan ar ôl cyhoeddi Cyfrol 2 (*Enwau Planhigion Blodeuol, Conwdd a Rhedyn*) nad oedd pobl am ollwng yr enwau rhanbarthol cyfarwydd ac annwyl iddynt ar draul rhyw enw safonol neu ddieithr o'n heiddo ni - a pham ddylen nhw? O ganlyniad, bu'n rhaid i ninnau ehangu cwmpas ein gwaith a rhedeg dwy restr yn gyfochrog, sef yr enwau safonol yn ogystal â'r enwau rhanbarthol. Mawr yw ein diolch i Davies, D. & Jones, A. (1995) a'u rhagflaenwyr megis Meirion Parry (1969) am gasglu'r enwau hyn a'u cyhoeddi. Bu Dewi Lewis yn parhau â'r traddodiad yn ddiweddarach wrth gyhoeddi ei gasgliad o restrau enwau rhanbarthol ar adar mewn dwy gyfrol (ee. Lewis, D., 1994). Rhoddwyd caniatâd gan eu cyhoeddwyr i'r casgliadau hyn ymddangos ar wefan Llên Natur, (www.llennatur.com) ochr yn ochr â'r enwau safonol, trwy borth i wefan Porth Termau Canolfan Adnoddau Iaith Prifysgol Bangor, Canolfan Bedwyr. (**http://www.llennatur.com/cy/node/1**). Pwrpas y gwaith safoni yw caniatáu cyfathrebu ar draws y byd Cymraeg i hybu naturiaetha yn gyffredinol drwy'r cyfryngau cenedlaethol ac ym myd gwyddoniaeth. Pwrpas y gwaith casglu yw meithrin ymwybyddiaeth o natur mewn cyd-destun bro a thraddodiad lleol. Dyma ddwy ochr yr un geiniog megis.

Daeth yn amlwg yn fuan iawn i ni fel 'ieithmon natur' bod i bob grŵp naturiol ei gyfleon a'i anawsterau ei hun. Er enghraifft, ym myd y planhigion, nid yw'n amlwg pob amser i siaradwyr Cymraeg cyfoes pa enwau sydd yn unigol a pha rai sydd yn lluosog - neu 'dorfol' hyd yn oed. Nid cwestiwn sych academaidd mo hwn ond cwestiwn y mae'n rhaid mynd i'r afael ag o wrth greu rhestr gywir, ac, er enghraifft, wrth geisio dehongli dogfennau perthnasol o'r gorffennol, yn aml mewn iaith llawer mwy rhywiog a naturiol gywir nag y mae llawer ohonom heddiw, gyda'r holl ddylanwadau eraill sydd arnom, yn gallu ymgyrraedd ati erbyn hyn.

Cymerwch er enghraifft y gair gwern. Prin bod angen dweud wrth ddarllenwyr Cymraeg Natur Cymru mai coeden yw hon sydd yn hoffi cadw ei 'thraed' yn

Richard Becker

Ethiop *Mormo maura* Old Lady

Duncan Brown

Brychandwr *Lampropteryx suffumata* Water Carpet

wlyb. Rhowch y fannod benodol 'y' o flaen y gair ac mi gewch 'y gwern' (‘the alder trees’, lluosog, dim treiglad ar ôl y fannod: cyflwr unigol y gair yw 'y wernen'). Neu, ac mae hyn yr un mor gywir, cewch 'y wern' (enw unigol, treigliad ar ôl y fannod, ‘the wet place’ – lle gwlyb, ond nid o anghenrheidrwydd gyda choed gwern yn tyfu arno, er mai o enw’r goeden y daeth y term yn ddi-os). Lluosog y gair hwn yw 'gwernydd'. Beth dylid galw’r gwyfyn ‘alder kitten’ felly, cathan y wern ynteu cathan y gwern. Er mwyn osgoi unrhyw amwyster penderfynwyd defnyddio’r ffurf dorfol cathan y gwernos. Roedd y dadleuon yn ein pwyllgorau wrth i ni geisio cyfleu ystyr yn gywir ac ymdopi â'r math hwn o gyfoeth sydd cymaint rhan o deithi'r iaith Gymraeg, yn bleser ac yn gur pen ar yr un pryd! Mawr yw ein dyled fel naturiaethwyr i’n harbenigwyr ieithyddol, y doethuriaid Rhisiart Hincs a Bruce Griffiths yn bennaf, am lywio'r drafodaeth drwy'r labyrinth ieithyddol.

Roedd absenoldeb llwyr enwau Cymraeg ar wyfynod hefyd yn fendith ac yn felltith - yn fendith oherwydd i ni ddechrau, fel y Fictoriaid gynt, gyda llechen lân, ond yn felltith oherwydd mai'r unig ffynhonnell flaenorol oedd ar gael i ni oedd y Saesneg a'r Lladin. Pam fod yna enw safonol Saesneg ar bob math o wyfyn gweddol fawr sydd i’w weld yn Ewrop, a Chymry Cymraeg erioed wedi gweld yn dda i enwi ‘run ohonynt tan rwan! Mae'r rhesymau yn destun ysgrif arall ond efallai bod cliw yn y ffaith nad enwau naturiol y werin oedd yr enwau hyn o gwbl. Dyna paham y bu iddynt sefyll yn ddigyfnewid am ddwy ganrif (a llawer mwy digyfnewid gyda llaw na'r enwau Lladin, yn groes i’r gred gyffredin). Wrth enwi’r gwyfynod am y tro cyntaf yn hanes y Gymraeg rydym o'r diwedd yn ehangu ein gorwelion i gwmpasu'r hyn sydd yn byw yn gyffredin o’n cwmpas!

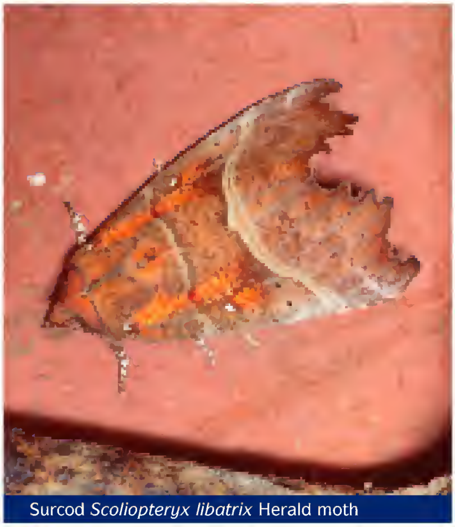
Efallai nad yw'n hollol wir i ni ddechrau gyda llechen lân ym myd y gwyfynod. Y cyntaf i lunio rhestr o rywogaethau’r grŵp hwn oedd y naturiaethwr Dafydd Dafis, sylfaenydd Cymdeithas Edward Llwyd, nôl yn yr 1980au. Er na chafodd unrhyw ieithydd y cyfle i fwrw ei linyn mesur drosti (cam y penderfynwyd, yn ddiweddarach, sydd yn angenrheidiol wrth lunio rhestrau enwau safonol) Dafydd Dafis fathodd yr enwau ‘pwtyn’ am ‘pug’, ‘brychan’ am ‘carpet’ a ‘troedwas’ am ‘footman’, a bu'r enwau hyn yn aml yn fan cychwyn i'n gwaith ni. Er na chyhoeddodd Dafis ei restr, fe'i rhannodd â ni fel y gallem ei mireinio mewn cyfnod pan oedd y byd cadwraeth a chyfundrefnau biwrocrataidd cefn gwlad yng Nghymru yn clochdar am eirfa Cymraeg.

Bu'n benderfyniad cynnar gennym i geisio safoni ar sail enwau sy’n bodoli eisioes. Prin iawn ydi'r bathiadau pur. Wrth reswm byddai enw Cymraeg yn cael blaenoriaeth dros enw Saesneg neu Ladin er i ni yn aml gyfuno nodweddion ystyr o ddwy neu dair iaith wrth i ni ymlafnio (weithiau yn fwy llwyddiannus na'i gilydd) i greu enw sydd yn gyfforddus i'r glust, yn gyfarwydd, ac yn ddisgrifiadol o'r creadur neu'r planhigyn. Yn absenoldeb enwau Cymraeg ar y gwyfynod bu'n rhaid troi at yr enw Saesneg neu at yr amryfal gyfystyron yn y 'Lladin' wyddonol i gael y maen i'r wal, ond gan geisio byth a cholli golwg o’r creadur ei hun. Ein rôl ni fel naturiaethwyr (Twm Elias, Huw John Huws a minnau) sydd â phrofiad byw o lawer o’r rhywogaethau, oedd cadw ein llygaid yn dynn ar y bêl, fel petai, a cheisio sicrhau eu bod yn dod yn fyw drwy eu henwau. Os oedd ein adnabyddiaeth o rywogaethau yn gyfyng, roedd gallu troi at wefannau megis *UK Moths* a’i lluniau yn achubiaeth.

Mi fuasem yn llai na dynol i beidio chael ein temtio i gyfieithu neu addasu ambell i enw ffansïol a deniadol yn y Saesneg. Gwyfyn hardd iawn yw'r hyn a eilw'r Saeson yn 'herald', a bu'n rhaid wrth ymchwil i ddarganfod beth yw tarddiad yr enw hwn. Penderfynasom ar yr enw 'surcod' yn y Gymraeg, gan mai cyfeiriad yw herald at siaced liwgar yr herald gynt a gai ei gwisgo dros lifrai mwy cyffredin fel surcoat neu surcod. Edrychwch ar y creadur a chwi a welwch!

Enw ffansïol arall yw Ethiop am y gwyfyn 'the old lady', *Mormo maura*. Yn yr achos hwn dewisiwyd addasu yr enw Lladin, sydd yn cyfeirio at berson tywyll ei groen – neu *moor*. Ym Meibl William Morgan, Ethiop oedd person o'r fath - a dyna fu! Ond yn achos mwyafrif helaeth y rhywogaethau, dewiswyd trefn enw ac ansoddair ar batrwm Linneaidd i geisio cyfleu perthynas tacsonomegol y rhywogaeth gyda'i berthnasau yn yr un genws, teulu neu urdd. Yn wir mewn un achos, gwnaethpwyd i ffwrdd â'r enw ffansïol Cymraeg diweddar ar un glöyn byw yn gyfan gwbl, sef 'boneddiges y wig' – am nad yw'n perthyn yn arbennig i'r wig, ac am nad yw'n foneddiges mewn unrhyw ystyr cyffredin o'r gair hwnnw. 'Orange tip' yw'r enw Saesneg ar y glöyn hwn o deulu'r gwynion ac mae blaen adenydd y gwryw yn oren llachar, amlwg. Bathwyd felly, o'r newydd, yr enw gwyn blaen oren, am ei fod yn perthyn i deulu'r gwynion (y *Pieridae*) ac yn meddu ar adennydd oren llachar. Doedd dim dewis – a threchwyd y ffansi gan ffaith!

Ar ôl ymddeol o'i waith fel Uwch-swyddog Rheolaeth gyda Chyngor Cefn Gwlad Cymru yn 2008 bu ***Duncan Brown*** *yn canolbwyntio ar ddatblygu systemau i hyrwyddo'r defnydd o'r Gymraeg ym maes yr amgylchedd. Mae Prosiect Llên Natur (www.llennatur.com) dan ofal Cymdeithas Edward Llwyd yn gyfrwng i gasglu a chyhoeddi enwau a thermau Cymraeg o bob sector o'r bywyd gwledig ddoe a heddiw, a thrwy hynny, greu naratifau amgylcheddol a hanesyddol newydd.*


Surcod *Scoliopteryx libatrix* Herald moth

Richard Becker

Cyfeririadau

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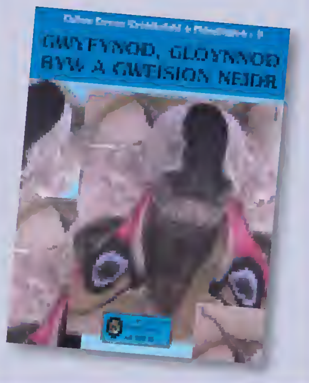
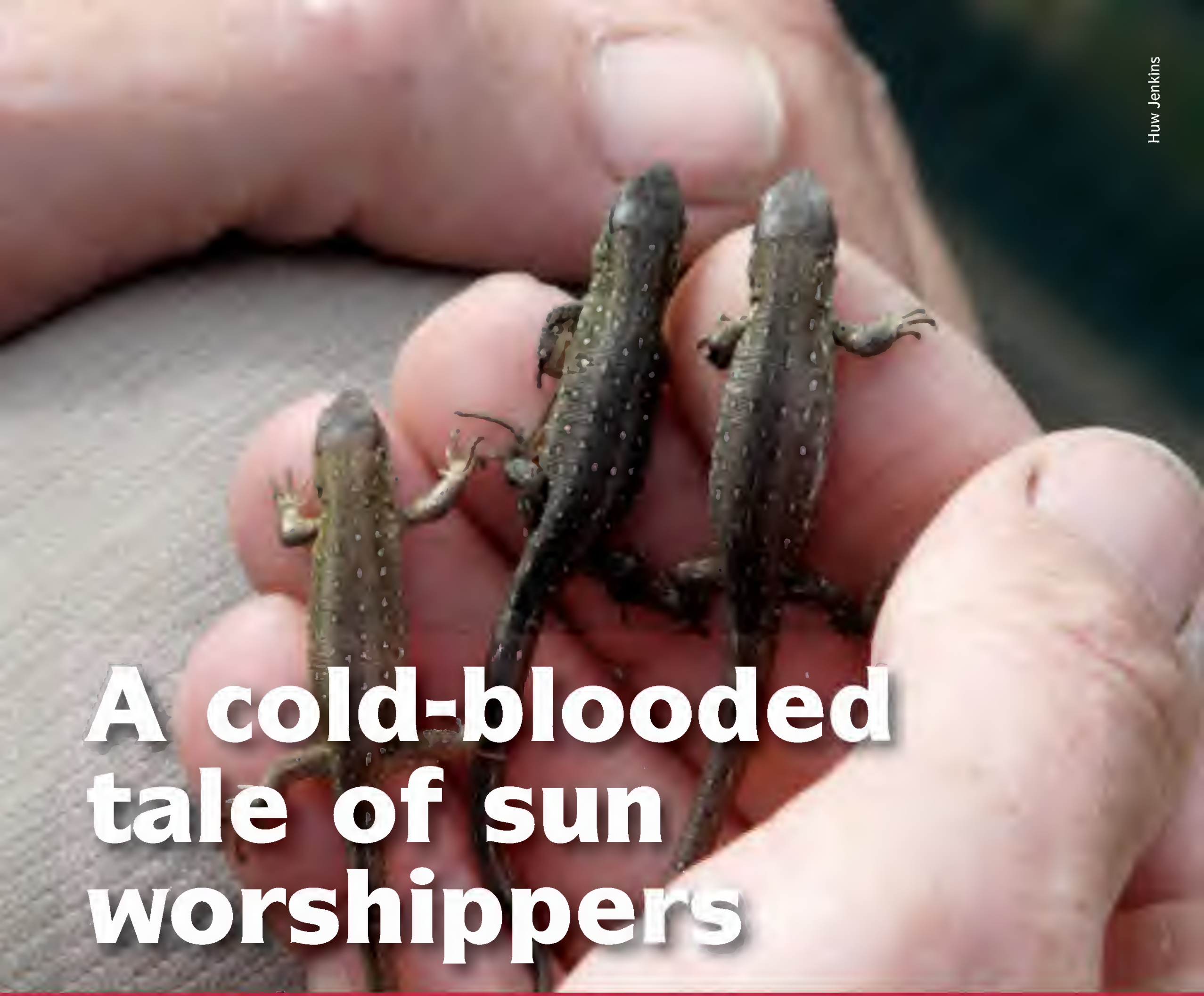
What's in a name?

In recent years Cymdeithas Edward Llwyd has spearheaded the task of producing standard Welsh names for a host of plants and animals, and the latest volume covers moths, butterflies, dragonflies and damselflies. The teams of naturalists and Welsh language experts have faced various challenges in undertaking this work: the need to retain cherished local names, alongside the standardised ones, became paramount in the case of the flowering plants, but the paucity (and sometimes total absence) of names when it came to invertebrates (particularly the moths) created a greater research challenge for the wordsmiths, who had to use lists drawn up largely by Victorian parish priests and to pore over Latin dictionaries and other dusty tomes in order to understand meanings and generate sensible names. The level of expertise and knowledge amongst team members has served them well, allowing them to challenge where necessary, to bring species alive through appropriately descriptive names, and to produce taxonomically robust lists that can stand the test of time.



A cold-blooded tale of sun worshippers


Huw Jenkins

Sand lizard

Are things going to get better or worse for our native reptiles as the climate changes? ***ZIGGY OTTO*** *and* ***ELEN ANGHARAD HALL*** *explain the pros and cons.*

We shall never forget the sunny summer day at Bosherston Lakes, when we watched a grass snake lose an argument with a coot. Well, no doubt the bird was protecting her clutch of eggs in a nearby nest. The snake had no choice but to leave the scene by side-winding across the lily pads to the other side of the narrow lake arm. What a sight, and we still regret we did not have a camera to hand.

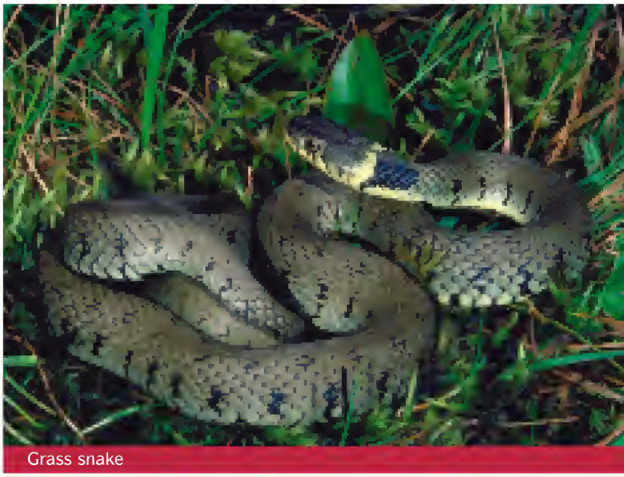
Wales is also home to a second species of snake, the adder, plus three species of lizard (common lizard, slowworm and sand lizard). Four of these species are widespread and found throughout the country, while the sand lizard has a much more restricted distribution. Our native reptiles all need shelter, warmth and food; these are mostly available in good natural habitats, although some 'wild' gardens may be used by several species.

Reptiles developed from amphibians in the swamps of the late Carboniferous 310-320 million years ago. Increasing evolutionary pressure and the vast untouched niches of the land powered the changes in amphibians to gradually become more and more land-based. Reptiles have been grouped with amphibians from the outset of classification. Linnaeus, working from species-poor Sweden, where the common adder and grass snake are often found hunting in water, included all reptiles and amphibians in the class *'Amphibia'* in his *Systema Naturae*.

Reptiles generally rank low in most ecological food webs, but many examples of apex reptiles have existed in the past, the most infamous being *Tyrannosaurus Rex*. Grass snakes feed largely on amphibians, while adders prefer lizards and small mammals. Both species also sometimes take fish and nestling birds. Lizards feed on a wide range of invertebrates, including insects, spiders and molluscs. The older author of this article has fond memories of growing up in rural Germany, helping a friend catch grasshoppers and feeding them to the sand lizards he kept in a spacious, outdoor terrarium, with textbook recreated habitat. The German name for sand lizard is *Zauneidechse* ('fence lizard') which may be explained by the lizard's frequent presence in field boundary structures that display a higher degree of suitable structural diversity than surrounding areas. It is also called 'meadow lizard' in parts of continental Europe: both names reflect the wider range of habitats where soil and temperature conditions for egg incubation allow the sand lizard to occupy more niches than it does in the UK.

Are reptiles really cold-blooded?

It is not strictly correct to call reptiles cold-blooded, as they spend much of their lives with their bodies nearly as warm as a warm-blooded animal. It is more correct to say they have 'variable body temperatures' or are 'ectothermic', which means they regulate their body temperature largely by exchanging heat with their surroundings. What they lack is a means of producing and maintaining their own body heat. If they start to feel cold, then they seek an area that is warmer, whether it is on a rock, on sand or a vegetated patch heated by the sun.


CCW/Michael Hammett

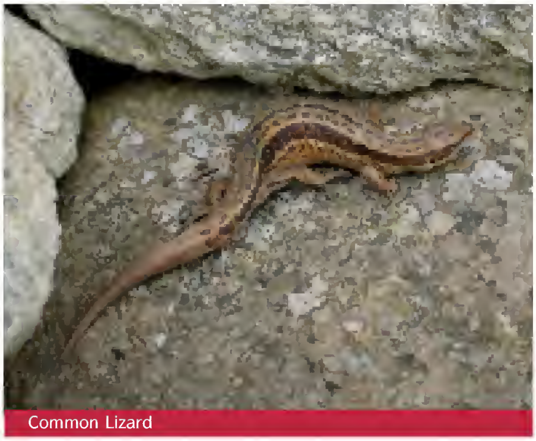
Grass snake

Reptiles have evolved some incredible survival strategies to ensure their physiological integrity remains intact under the most adverse conditions. One of these is 'brumation', the hibernation-like state that ectothermic animals utilize during very cold weather. 'Aestivation' is a similar adaptation to cope with very hot temperatures. Do these adaptive strategies make reptiles more susceptible to the impacts of climate change, or less so?

We must accept that climate change in Wales is happening, but that does not mean that we are going to become a Costa Blanca on the Atlantic. For Wales it will mean a more frequent occurrence of weather extremes, like the ones we are currently experiencing. On average it will be warmer over the year as a whole, with wetter winters and drier summers, particularly in the south. There will be an overall increase in rainfall, including an increase in average intensity. Last but by no means least, the frequency of gales will increase with significant impacts on coastal areas as a consequence.

At first sight, reliance on external temperatures may make reptiles particularly sensitive to climate change, but the consequences will be more far reaching. As climate changes, so too will the 'climate space' – the area in which a species can live because the climate is suitable. Adder and common lizard, as northern or

Trsitan Hatton-Ellis



Common Lizard

colder region species, will lose climate space. Grass snake, sand lizard and slowworm, as southern species, may benefit from warmer conditions. On the other hand reduced water availability in summer will increase the drought threat to wetland sites, with consequent desiccation of nests of sand lizards and grass snakes, as well as the risk of fires on heath and grassland habitats. Burning is probably already the most significant threat to many of the heathland sites supporting rare reptiles.

Will reptiles benefit from climate change?

In general, milder winters will shorten the brumation period which might negatively affect body condition and survival. Shortening brumation will lengthen the active season and trigger earlier breeding, whilst increased temperatures will be beneficial for reproductive output and egg development. But mild winter conditions may tempt them out of their brumation dens too early, when there is not enough prey to support them. Sudden cold weather spells might then kill them, although the common lizard can survive prolonged periods of ‘supercooling’ and even tolerates the freezing of its tissues for several days. Warmer summers may result in more successful breeding and could see improved juvenile survival rates. For sand lizards, warmer summers have meant that females can now lay two clutches of eggs every year instead of one. Conversely, heavier rainfall, more frequent storms and flooding may destroy more nests. Lastly, milder winters will see increased survival rates of pathogens and consequent possible outbreaks of infections and diseases. Indirect impacts may come from the reaction of prey species to climate change.

Although it is relatively straightforward to envisage how specific elements of the lives of reptiles might be altered by climate change, the overall impact is not as apparent. For example, sand lizards at the edge of their ranges in Wales, and confined to very specific habitat (*Natur Cymru* 17), may be able to survive in a broader range of habitats in an altered climate, as they do further south in Europe. However, the fragmented nature of the natural landscape may prevent migration to alternative habitats.

All Welsh reptiles have declined in numbers over the last decades, mainly because their habitats have been lost, fragmented, neglected or unsympathetically managed. Changes in land use, especially the intensification of agriculture, have led to habitat degradation. Significant habitat and fragmentation loss has occurred through building development, roads, farming, afforestation and mineral extraction. Invasive non-native plants also contribute to habitat degradation and loss. Increased public access, especially off-road vehicle usage, disturbs animals and damages habitats, and there is even a threat from predation by the Asian pheasant.

These are all more or less obvious and easy to understand reasons, applicable to most species in decline: but there are other, less obvious threats. Domestic cats are not only a serious threat to song-birds, they also kill and injure many reptiles. Snakes often die after getting caught in flexible, narrow-mesh netting used to protect ponds and vegetable patches. Toxic slug bait is another problem.

Legal protection

Given the long list of threats to reptiles and their current conservation status, it is understandable that all native reptiles receive some legal protection in Wales. The sand lizard is a European Protected Species (EPS), whereby it is an offence to capture, possess, disturb, kill, injure, or trade in them. In addition, it is an offence to damage or destroy the places they use for breeding or resting. The remaining species are protected against intentional killing, injuring and unlicensed trade, but what about their supporting natural habitats?

This is the tale of the incomplete legal protection we offer our native reptiles but, considering they are all in peril, what more should we do? We are quietly confident that should another reptile species become extinct in Wales, as did the sand lizard in the 1960s, releases of captive-bred specimens will no doubt be afforded a much higher level of legal protection. This illustrates vividly and regrettably that nature conservation is all too often driven by tardy, reactive cures rather than by timely, proactive prevention and intervention measures.

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***Elen Angharad Hall** is an Environmental Sciences student at Aberystwyth University and was this summer on work placement with CCW.*

The three-tier system of reptile legal protection in Wales

1. The sand lizard is a European Protected Species (EPS) listed on Schedule 2 of The Conservation of Habitats & Species Regulations 2010.

2. All five reptiles are listed on Schedule 5 of The Wildlife and Countryside Act 1981 (as amended).

3. All five reptiles are in the Section 42 list of species that, as stipulated under the Natural Environment and Rural Communities Act 2006, are of *"principal importance for the purpose of conserving biodiversity."* Section 40 gives responsibility to all public bodies *"to have regard…to the purpose of conserving biodiversity."* Accompanying guidance states that biodiversity conservation extends to restoring and enhancing species' populations and habitats, as well as protecting them.

Pa ddyfodol i ymlusgiaid Cymru?

A fydd newid yn yr hinsawdd yn effeithio ar ymlusgiaid Cymru? Rydym yn wynebu hafau cynhesach, gaeafau tynerach a chyfnodau amlach o dywydd eithafol â mwy o wyntoedd. Gallwn ddarogan sut gallai hyn effeithio ar agweddau penodol o fywydau'r ddwy rywogaeth o neidr a'r dair rywogaeth o fadfall sydd yma yng Nghymru, ond anos yw rhagfynegi'r effaith ar statws cyffredinol y rhywogaethau. Bydd y 'gofod hinsawdd' (sef yr ardal sy'n addas, o ran hinsawdd, ar gyfer rhywogaethau) yn crebachu yn achos y wiber a'r fadfall am eu bod yn perthyn i ardaloedd gogleddol, oerach. Ond bydd gofod hinsawdd neidr y gwair, y neidr ddefaid a madfall y tywod yn cynyddu ac fe allent fwynhau gwell amrywiaeth o gynefineodd dan hinsawdd wahanol. Ond ar y llaw arall, gallai hafau cynhesach greu mwy o berygl tân ar weundiroedd a gor-sychu nythod yr ymlusgiaid.

Mae ymlusgiaid yn cyfnewid gwres gyda'u hamgylchedd er mwyn cynnal tymheredd corff priodol. A fydd arfer ymlusgiaid o droi'n swrth mewn cyfnodau oer neu boeth iawn, er mwyn ymdopi ag amgylchedd anos na'r arfer, yn help iddynt ymdopi â newid hinsawdd? Gallai gaeafau tyner eu hannog i ddeffro'n gynt o gyflwr swrth y gaeaf – ond efallai'n rhy gynnar, cyn bod digon o fwyd i gael iddynt, a phryd y gallai cyfnodau byr o oerfel fod yn ddigon i'w lladd. Gallai hafau cynhesach alluogi oedolion i ddodwy mwy nag un nythaid o wyau a helpu rhai bach i oroesi. Ond gallai glaw trwm a llifogydd ddinistrio nythod ac ymlusgiaid ifanc. Ac mae gaeafau mwyn yn annog pathogenau a lledaeniad heintiau.

Nid newid hinsawdd yw'r unig ddylanwad ar oroesiad ymlusgiaid Cymru. Mae ffactorau eraill yn cyfrannu at eu dirywiad – megis diflaniad cynefinoedd o ganlyniad i newid defnydd tir a datblygu tai ac isadeiledd a hefyd aflonyddiad oherwydd gweithgareddau hamdden. Ac mae peryglon eraill yn llechu yn ein gerddi –mae cathod, pelenni gwlithod a'r netin ysgafn dros byllau a phatshys llysiau yn eu lladd. Rhaid taclo'r ffactorau hyn i gyd, a hefyd newid y ddeddfwriaeth sydd mor aneffeithiol fel arf i warchod y creaduriaid hyn.

Inspired by Nature Competition Runners-up

For three years now the *Natur Cymru* 'Inspired by Nature' writing competition has proved just how many of you really are inspired by the beauty of the natural world around you and the wildlife that inhabits it. This inspiration affects people in different ways, as shown by two of the runner-up entries for this year's competition.

For some it spurs a need to get out there and do something. **Julian Jones** has worked for the Wildlife Trusts since 1997, the majority of that time in Radnorshire. He became interested in Llandrindod lake in 1999 after witnessing thousands of toads trying to reach the lake and seeing hundreds of squashed toads and newts that failed to make it over the adjacent road. After dozens of meetings and lots of cajoling and campaigning, Llandrindod lake was designated a Local Nature Reserve in 2010.

For **John Woolner** the inspiration comes from seeing the reaction of his young son to a kayaking trip down the River Wye. John works as a psychotherapist and teaches part time at Plymouth University. He is a frequent visitor to Wales and says of himself: "I have always loved nature and often find myself just sitting and observing things. I think, in a busy world, we're in danger of overlooking the beautiful and miraculous before us."

For full details of the 2011-2012 competition, see the centre pages.

Allan Brandon

Welsh Dragon

Male Emperor dragonfly *Anax imperator*

"Dragons aren't real," I said, as I carried the kayak through thick luscious meadow, peppered with bright buttercups. "You're daydreaming!"

"Then why's there a dragon on the Welsh flag?" asked Ben, staggering beside me, struggling under the weight of his rucksack.

We were just below the Bunch of Carrots public house in Hampton Bishop, on an unseasonably hot, early summer morning.

"I... I don't really know," I said, wiping sweat from my face. "I just don't want you to be disappointed."

"We *will* see one!" he declared.

Several Hereford cows approached cautiously as we loaded up, stopping in a group close by, chewing cuds, snorting, flicking their tails, and staring at us wide-eyed.

"Hwyl fawr," I cried, as minutes later we boarded and slid down a grassy slope into the clear, fast flowing water.

"What's that mean Dad?" said Ben, turning to face me.

"It's Welsh for goodbye."

"But they're English cows," he said indignantly, "We're still in England!"

Carried along on snaking stretches of shimmering, bubbling, fast flowing water, weed swishing to and fro in the current, or paddling hard on long slow-moving, meandering sections, we were struck all day by the sheer vibrancy of everything around us; dippers and grey wagtails flitting amongst stones on the bank; the blue-orange flash of a darting kingfisher; the steady drilling of a woodpecker; cooing pigeons; dozens of sand martins flying zealously in and out of nest holes in a steep sandy bank; song from reed beds of sedge warblers and buntings; mute swans tailed by groups of fluffy cygnets; the shimmering flicker of damselflies hovering above patches of white- and yellow-flowered crowfoot, yellow cress, reed canary grass, or the bright blue flowers of water forget-me-nots; a heron standing expectantly at the water's edge; and coots in the slower stretches, scampering across the water.

"Are we in Wales yet?" asked Ben as we stopped for lunch on a bank of shingle.

"Indeed we are."

"Then keep your eyes out for a dragon," he said, widening his eyes and raising his eyebrows.

"Okay," I laughed.

We were sitting with our backs against an old willow tree, its leaves stretching thirstily down to the water's edge. Either side, the banks were lined with purple knapweed, pink flowered comfrey, and the delicate white flowers of meadow saxifrage. There was a light, warm breeze, and occasionally we'd smell wafts of elderflower or wild garlic. From the wild pasture behind came the buzz of honey bees and the bleat of grazing sheep. Hearing a piercing cry, Ben looked up. No dragon, but circling buzzards against the deep blue sky, floating on thermals.

The following day, after having camped on the lawns of the White Lion, close to Ross-on-Wye – where the previous evening we'd devoured homemade steak pie, and I'd enjoyed a pint of Butty Bach – we found ourselves paddling through steep woodlands of native trees: alder, ash, beech, sycamore and oak, out of which towered the occasional looming chimney, a reminder of the area's industrial past. We had the briefest glimpse of an otter before it dived, and I'm sure as we swept down the rapids in the dramatic limestone gorge of Symonds Yat – Ben howling with delight – that I spied a peregrine falcon sweeping down from a cliff.

That evening we sat on the bank, paddling our feet, the tent pitched on a patch of grass by a slow stretch of water. Trout plucked flies from the surface, making sounds like corks being pulled from wine bottles.

"What's that dad?" cried Ben, excitedly, pointing towards a huge humming insect, hovering above nearby reed beds.

"It's an Emperor dragonfly. You don't normally see them so early in the year. Keep very still!"

"Dragon!" he exclaimed. "I *told* you we'd see one!"

"You were right," I said, smiling within, as the dragonfly flew forwards fast, hovered, flew upwards slowly, downwards, backwards, and hovered, its rapidly beating wings reflecting the rich, warm, fiery, glow of the setting sun. "It must be a baby dragon."

The magnificent buzzing creature, one of the oldest species on earth, pre-dating even dinosaurs, approached closer, and then momentarily settled on Ben's knee.

"Wow! Amazing! A baby dragon!" whispered Ben, barely flinching, looking down on the dragonfly in awe. "It must have been born here."

His body was at least eight centimetres long, with a brilliant sky blue abdomen and apple green thorax, and a black stripe down his back, ending in his large head and multifaceted eyes with thousands of lenses. His outstretched, translucent, sets of wings, a good ten centimetres across, were like gossamer lace, shining with silvery blues, reds, gold and greens.

Little surprise that this extraordinary looking insect has sourced so much myth: viewed in Japan as a symbol of courage, strength, and happiness; revered by Native American tribes as a symbol of strength, regeneration and pure water, or deified as being a soul of the departed; feared in other cultures for having evil, supernatural powers – the 'devils darning needle', that seeks out naughty children and sews their mouths together with its claspers while they sleep; and known as gwas-y-neidr in Welsh, 'the adder's servant.'

Seconds later, like some ancient, prehistoric helicopter, he ascended, darting this way and that above the surface of the river, into clouds of circling mosquitoes. And then he was gone.

The air cooled, a mist began to form, and Ben fell asleep in my arms. As I wrapped my jacket around him, the dragonfly reappeared, accompanied by a female. Together they flitted erratically over the river, as if dancing a ballet, the dying sun catching the iridescence of their wings, until darkness fell, stars began to glimmer, and a pair of tawny owls called eerily from nearby woods.

No wonder this 72 mile stretch of the Wye is a designated area, I thought, holding Ben close. Places of outstanding natural beauty like this, the birthplace of dreams and baby dragons, need our lasting protection.

John Woolner

Allan Brandon

Julian Jones

Re-wilding my town

Protecting habitats on the shores of Llandrindod lake.

Until the middle of the 19th century there was a wild expanse of Radnorshire common land, stretching from the village of Llanbadarn Fawr, south to the hamlet of Llandrindod, through Howey, and towards the Carneddau hills, just north of Builth.

Perhaps it was eight miles long and a mile or two wide. Consisting of wetland, woodland, heathland, grassland, rivers and swamps, the common was significant not only for its thriving wildlife and the communities that it benefited, but for providing a historical link with a part of Mid Wales that had changed little since Gerald of Wales set off from Hereford to New Radnor in 1188.

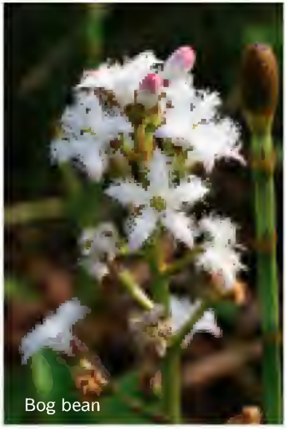
It was a pity that Gerald only 'dipped his toe' into medieval Radnorshire, because, in spite of his predilection for exaggeration, it would have been fascinating to have gained an insight into the wilderness that must have existed here in the 12th century. How can I be so sure that it was a place of beaver dams, red squirrel hopping through the oak canopy and wild boar munching bluebells on the forest floor below? Of course I can't, but even during the 17th century the occasional English commentator was disparaging about it being a pestilential place of poor land and swamp.

Ideas and developments can take a while to reach or leave Radnorshire – the outcome of the 1964 General Election was held up for a day or two until the Brecon and Radnor result reached Westminster. When the Enclosure Acts swept England and Wales in the 18th and early 19th century, there was little change until the 1830s, and in the village of Franksbridge 'enclosure' arrived as late as 1891.

By the end of the 19th century the lowland common between Llandrindod and Builth had all but disappeared. Co-founder of evolutionary biology, Alfred Russel Wallace documented some of this change when he worked in Radnorshire from 1840, carrying out surveys as part of the enclosure of this once great tract of common land.

Rapid agricultural changes were closely followed by

Pete Jones


Bog bean

the advent of railways which arrived in the 1850s and 1860s and within a few years the rural hamlet of Llandrindod was catapulted into the Victorian Spa town of 'Llandrindod Wells'. The ability to travel and, for some, the time to do it, brought an unexpected guest into Radnorshire – the naturalist.

In his *Flora of Radnorshire*, Ray Woods describes the 1867 visit to Llandrindod of the Woolhope Naturalists' Field Club. Spending time at a peatland on the edge of the town, they produced a magnificent species list with early-marsh and fragrant orchid, meadow thistle, marsh lousewort and bogbean. They capture for us a window in time: the railway had arrived, some early entrepreneurs had set up guest houses and small hotels but, within a decade, these wild places had all but vanished, including 'the bog' – replaced by a boating lake which became a main attraction for the 80,000 people who flocked here each summer.

If only the Victorian planners had dragged Alfred Russel Wallace back to the spa town. He would have told them what we all now know. You can dig up and drain a peat bog, concrete its sides, create an island, stock the clear waters with shiny fish, have more boats than the Serpentine in London, but all the lake wants is to be a peat bog again.

The trouble really began when the Victorian and Edwardian splendour was becoming a distant memory. By the 1950s, people began noticing that the lake wasn't quite right. In 1951, a 'Kent Farmer' had the idea that the lake needed a rigorous phytoplankton growth, so he popped in a tonne of super phosphate fertiliser. Just to make sure, another half a tonne was added the following year.

Having been stocked with brown trout before the Second World War, successive stocking of fish took place with chub, carp, bream, tench and roach, joined by perch, gudgeon and the diminutive bitterling – a non-native fish that forms a commensal relationship with the swan mussel: both species are numerous in the lake.

In 1992, Professor Brian Moss reported that the lake was in crisis. It needed removal of carp and bream and instead an assemblage of rudd, tench and crucian carp. Submerged aquatic plants were also vital, and had been missing for some time. Native pondweeds and aquatic plants are essential to the survival of many lowland, freshwater lakes – as Dr Nick Giles has said, “they are the trees in the forest”.

With removal of sediment, new fish and new plants, the future looked bright for Llandrindod lake. By the mid 1990s it was said to have looked clear for the first time since the 'Kent farmer' turned up in the 1950s. Dragonflies and damselflies swarmed around the edge of the lake and the water was full of aquatic plants. Unfortunately, one of these was Canadian Pondweed and it rather took hold. At the same time carp and bream were re-stocked, and within a decade the lake was back to the murky, 'pea-soup' appearance that had become so familiar.

For some 2006 was the lake's *annus horribilis,* a blue-green algal bloom killing thousands of fish and closing the lake at the height of the tourist season: but it acted as a catalyst, with Powys County Council agreeing to a full ecological restoration and de-silting of the lake which occurred in 2008. Many of the carp were removed, and reedbeds and marginal vegetation were created to soften the hard concrete edges. Within a few months, water rail were frequently seen and after a year, a family of otter appeared.

The common and its peatland will never come back, but the lake was rewarded at the start of 2011, when it was designated as a Local Nature Reserve. Oh, and the bogbean that was seen in 1867, that never left the edge of the lake. A little clump valiantly hung on, regularly flowering and today it flourishes.

Julian Jones

John Douglass

Usnea florida

Tycanol National Nature Reserve

Maintaining diversity in an ancient oak wood

***PAT WOLSELEY** and **CELIA THOMAS** describe the changing circumstances of an ancient woodland and how some of the lichens for which it became a nature reserve are disappearing.*

Tycanol National Nature Reserve (NNR) is one of those places where nature and history combine to make a unique site. From the landmark rocky outcrops of Carnedd Meibion Owain, which stand out above Tycanol wood, you look towards Newport Bay and the Irish Sea, a route used by people since prehistoric times to access the Preseli Hills.

Once inside the woodland you are in a different world, a realm of lichen-covered trees, of sheltered glades and small fields, of rocky outcrops and deserted farmsteads. There are tracks everywhere, left by fox, sheep and people who have used this wood, and left their mark.

I have walked through these woods almost every year since I first came to survey the lichens in 1979. A lichenologist takes so long at a single tree that he or she becomes virtually invisible to the woodland life. In spring, flycatchers dart back and forth to feed their young in the small meadow at Hagr y Coed. Polecats that live in rock outcrops in the

Mandy Marsh

Tycanol woods with 1940s coppice in the background

woods may pause to look at you on their way back to their den.

The wood was declared a Site of Special Scientific Interest for its lichens following a visit from Francis Rose and Peter James, when 170 lichen species were recorded including 19 species associated with ancient woodlands indicative of long ecological continuity. Thirty-five years and several surveys later we are still discovering new records for Tycanol, so that to date 394 species of lichens have been recorded including 42 indicators of ecological continuity and 53 rare or local species. In 1986 it was declared a National Nature Reserve and described as "...of considerable importance for invertebrates and lichens and has breeding populations of two rare native mammals, dormouse and polecat".

Origins of diversity

Both management history and the natural features of the tree and rock substrata play a part in the lichen diversity of this site. This edge of the Preseli Hills is dominated by intrusive rocks of gabbro and dolerite – hard rocks full of silica or feldspar that do not weather easily. Lower down the hill extrusive sills of basalt and ash from the Strumble Head volcanics (c. 450 million years ago) are rich in other minerals, which affect the lichen communities. The Irish Sea glacier, sweeping in from Ireland, carved out valleys, scraped the outcrops, and broke off huge boulders, scattering them on the slopes. The hardest outcrops remain today on the moorland and in the woodlands, rising like dramatic lichen-covered ruins. As the ice retreated the meltwaters deposited gravel and finer clays in the valley bottoms where now we find alder and willow carr. This diversity of rocks in shaded and exposed conditions has contributed hugely to the lichen diversity, from the macro level of the outcrops to the micro level on the underside of boulders or on pebbles in the woodland streams.

Prehistory and history

When Neolithic agriculturalists arrived here they began to clear areas that were easy to reach, leaving woods in the inaccessible areas. The high outcrops were important as living sites for the people, as evidenced by Carn Ingli and other Preseli sites, including the iron age rath in the woods at Tycanol. There is no record of how prehistoric people used the site but it is certain that they used the wood to build structures, for firewood, for charcoal, and as wood pasture for their stock. There are coppice stools at Tycanol below the iron age rath that are over 3 metres across, which may well belong to this period.

The cave below Carn Llewyn is known as St Brynach's cave. He arrived in Pembrokeshire from Ireland and settled at Nevern c. 540 AD, and legend has it that he came to meditate here on the edge of the woods and in view of Carn Ingli, the 'mountain of the angels'. The stone that marks the entrance to the cave is still there and is covered with lichens, some of which may well have been there at that time.

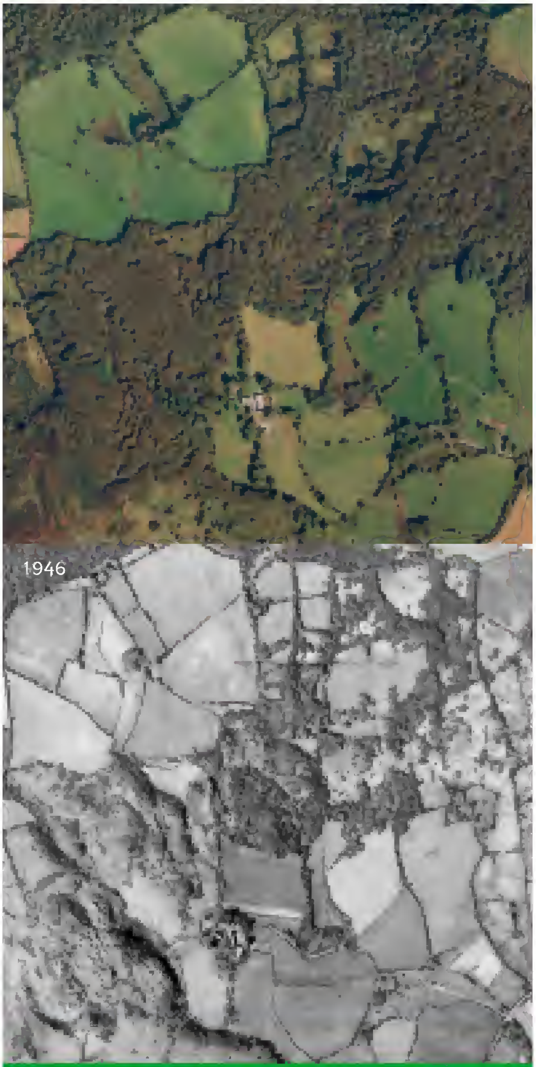
By the time that George Owen was writing in 1603 much of Pembrokeshire woodland was already cleared. He writes of Pentre Ifan and Tycanol that these woods "....contain the best timber in the shire with trees upwards of 200 years old".

Undoubtedly the woods at Tycanol were protected from improvement by the boulder-strewn slopes and steepsided valleys. In the lower woods around Hagr y Coed, agriculture was attempted during the 18th and 19th centuries. Today the enclosure walls remain and giant oaks arise from the boundaries around small fields. The old track to Newport runs through these woods, past ruined cottages including the clog makers cottage, where the wetter woodland provided plenty of alder trees from which to make clogs. Rabbits abounded and provided a good cash crop: the late Margaret Patterson reported that around 3,000 rabbits were caught annually at Tycanol in the 1950s. The rabbits and stock grazing would have kept much of the undergrowth in check, leaving the veteran oak trees in an open wood-pasture landscape. At this time there were plenty of large standard oak trees and a single tree could provide around 200 stakes of good heart wood, so this provided fencing for the farm as well as a saleable item. These were cut and split on site and between 1000 and 1500 stakes were sold each winter, so that over time these large veteran trees became scarce.

Lichens as indicators of ancient woodland

Many of the ancient woodland indicator lichens are associated with open-grown veteran trees of oak and ash, and although some of these trees still remain at Tycanol and continue to support populations of old forest lichens, I have witnessed others lost to storms. When a tree comes down the lichens may continue and even increase if it is left intact, due to the extra light available, but the beetles and fungi take over and eventually the bark drops off. Lichens do not colonise or 'move' readily and some are lost for ever. Francis Rose found the lungwort (*Lobaria pulmonaria*), the largest and most conspicuous of the old woodland indicator lichens, on large ash trees in the lower woods in 1975, but this lichen was gone from the site by 1979.

Much of the oak woodland in the upper woods has been coppiced, especially during the Great War when the furnaces producing ammunition at Port Talbot required charcoal, and more recently in the 1940s. Many lichens disappear under a coppicing regime as this removes all older stems and subjects lichens to periodic extremes of light and shade which favour bryophytes more than lichens. An aerial photograph taken in 2009 shows the dense canopy of the coppiced area and the more open scattered canopy of the lower woods with the glades and small fields.



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O Gasgliadau Cofnod Henebion Cenedlaethol Cymru:©Hawlfraint y Goron: MoD

TOP: Tycanol farm and woods, September 2009. Woodland cover has increased since the trees were last coppiced in the 1940s (bottom photo)

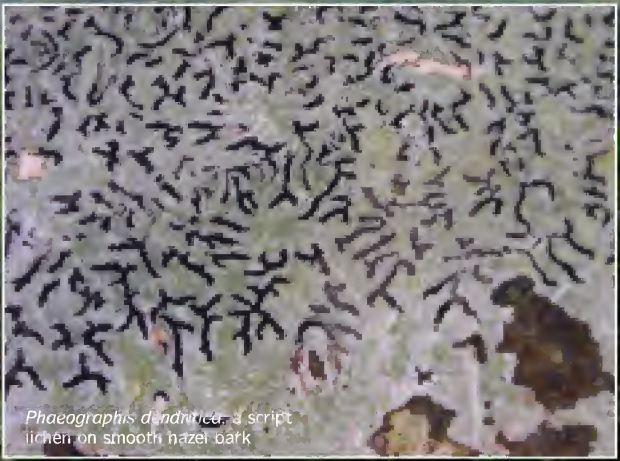
Glades were a permanent feature in these woodlands, kept open by the rabbits and grazing stock. When I first worked at Tycanol the glade at the lower edge of the wood was known, by the Conrans (who donated Tycanol) as the 'calving glade', where the small sturdy Welsh Black cows went to calve when the wood was run with the farm. This sheltered glade is backed by a cliff of rock covered with lichens including *Schismatomma umbrinum*, a rare lichen that is associated with shaded vertical rocks in ancient woodland and for which this site is the type locality (site where a species is first described).

Glades and small meadows have an abundance of hazel and this supports many of the specialities of Tycanol including species of beard lichen (*Usnea*). Some are now becoming rare such as *Usnea florida* with its conspicuous rayed fruiting bodies, and *Usnea articulata*, with inflated stems that become air borne. The smooth surface of hazel supports many lichen crusts including a whole community called the Graphidion, dominated by lichens with script-like fruiting bodies such as *Graphis scripta* and *Phaeographis dendritica*. But glades and open areas need maintaining, as over time shrubs and trees invade and shade the tree trunks and the rocks, so that bryophytes take over from the lichens. The loss of glades also affects other wildlife, such as pied flycatchers and speckled wood butterflies.

The loss of veteran trees, combined with coppicing of the upper woods, has meant that many of the lichens which were formerly associated with the standard trees are now restricted to boulders and rock outcrops where there is sufficient sunlight

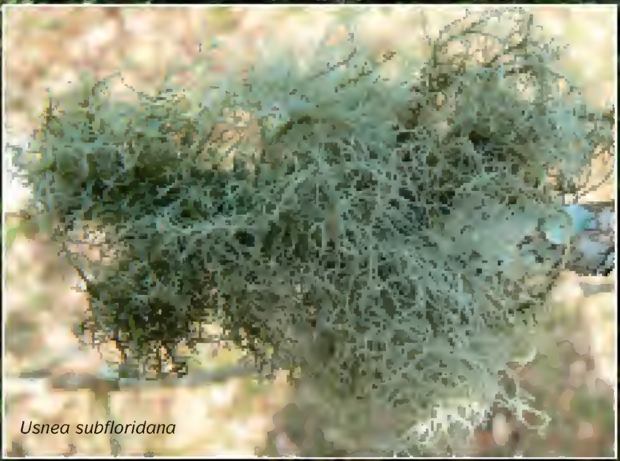
View to Carn Ingli

Sally Weale



Phaeographis dendritica: a script lichen on smooth hazel bark

John Douglass



Usnea subfloridana

Mandy Marsh

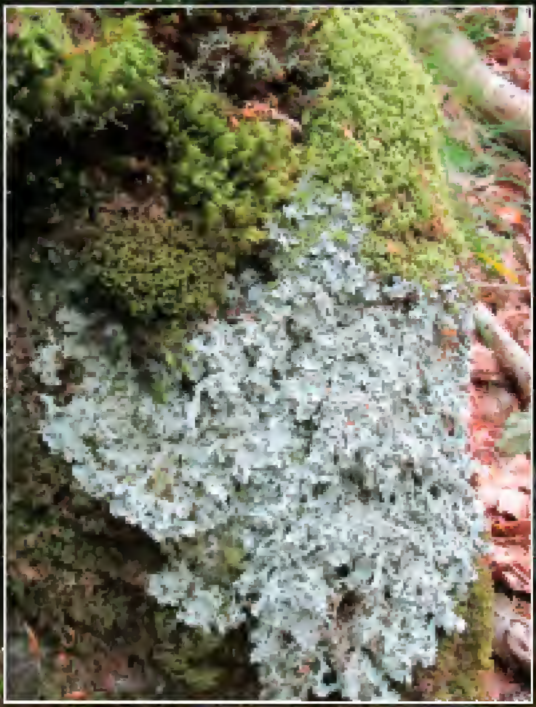
filtering through the branches. These include a local speciality *Hypotrachyna taylorensis*, which is more frequent in Snowdonia and the west of Scotland. This lichen does not produce spores or vegetative propagules, so is dependent on fragments from the main thallus to colonise adjacent sites. The increasing canopy shade in this area has allowed bryophytes to take over from *H. taylorensis*, as evidenced from the monitoring that has been undertaken since 1984.

The rock outcrops also have their special lichen communities, both on the sunny exposed outcrops and in the shaded woodland sites where many of the rarer saxicolous lichens are found. In the open areas you can distinguish the perching rocks of birds of prey by their position with a good view and the yellow nitrophilous lichens growing where guano has enriched the surface. There is rarely a bare surface of rock anywhere.

Ancient woodland management

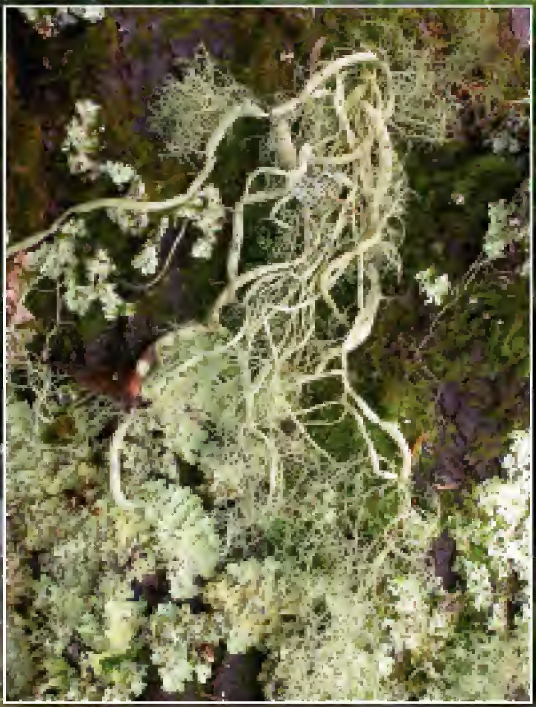
For us as naturalists and conservationists it comes as a shock when sites that we have protected start losing the very organisms for which they are protected. The presence of trees in all stages of the life cycle, from young standards to mature trees and then to decaying and fallen veterans, provides a range of micro conditions for many organisms as well as lichens.

Hypotrachyna taylorensis



Sally Weale

Usnea articulata



Robin Crump

John Douglass

Pat Wolseley surveying a veteran oak tree

Before the woods were fenced in the 1960s extensive grazing by sheep and cattle was the practice here, especially in winter. Where cattle and sheep are excluded there is a massive increase in bramble, ivy and undergrowth. This has happened in much of the neighbouring woodlands in the Gwaun valley under the Tir Gofal agri-environment scheme. A recent survey has shown a dramatic loss of lichen species in these woodlands following fencing and restriction of grazing.

At Tycanol the grazing has been maintained with the help of the Davies brothers who farm adjacent land, but even then it is not always easy to get the balance right! Continuity of veteran trees is essential. Once established, a tree may take over 200 years to become a veteran, during which time it has to survive grazing pressure and competition with the undergrowth. In order to hasten the process, we selected areas of coppice that could be 'singled to standards' allowing one suitable stem to grow on as a standard tree. Where planting is essential this has been done in small coops to allow trees to develop well-lit stems and to prevent the undergrowth developing.

Another feature contributing to the diversity at Tycanol is the mixture of tree species, with oak, ash, hazel and birch together with alder and willow in the wetter areas. This diversity provides a range of substrata for lichens and in particular a range of bark pH (acidity).

The outcrops add considerably to the lichen diversity but where trees and scrub become established on the exposed tops, the lichens that were characteristic of sunny exposed rocks have disappeared. In these areas we plan to remove some of the recent growth of trees and scrub. However, in the deeply shaded outcrops of the wood, where specialist lichens have survived on the rocks for centuries, we have to gauge how much and how quickly to thin out the trees.

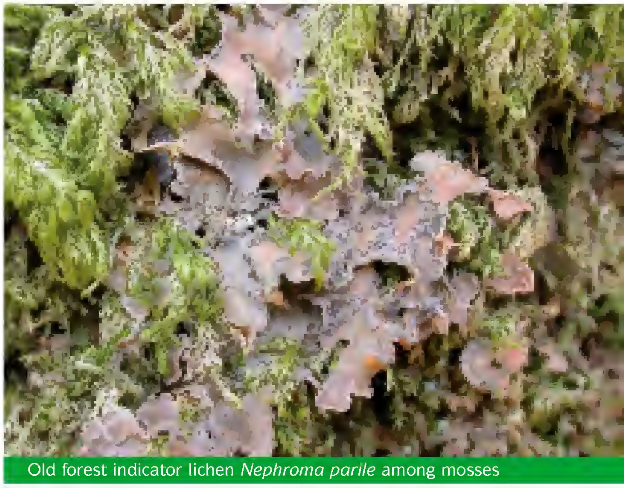
Future management

The woodland management over the last 60 years has all been localised and small scale. Visitors to the wood have become used to an apparent 'status quo', while the tree canopy has continued to grow over this period. In stark contrast to the first half of the 20th century, most of the woodland floor is now in shade, to the detriment of many of the species for which it was declared an NNR. Tycanol provides a special experience for artists and walkers, so that it will be difficult for many of us to accept that to keep the woodland as ‘wood pasture’ we have to reduce the encroaching tree cover. Once some of these coppiced stems are removed, and standard trees encouraged, we are confident that the essence of the site will be retained. The lichens that are slowly disappearing will once again flourish in this unusual scarce habitat that is an interaction between man, grazing animal and wildlife: a ‘wood pasture’, one of the oldest forms of pastoral landscapes known.

Pat Wolseley is a lichenologist and a Scientific Associate at the Natural History Museum in London. She lived in Pembrokeshire for many years and began her lichen research at Tycanol.

Celia Thomas is the Woodland Officer for Pembrokeshire Coast National Park. She is also a board member of NATUR, the Welsh Institute of Countryside and Conservation Management.

John Douglass



Old forest indicator lichen *Nephroma parile* among mosses

Acknowledgements
This paper reflects the stimulating discussions among those on the advisory committee of Tycanol NNR.

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Rheoli i gynnal y lledrith

Lle hudolus yw coedwig Tycanol, gyda’i chreigiau anferth, ei olion cynhanesol a’i choed crebachlyd. Bu’n Warchodfa Natur Genedlaethol ers 1986, yn rhannol oherwydd ei chyfoeth o gennau. Cofnodwyd 394 math gwahanol yma ac mae rhywogaethau newydd yn cael eu darganfod o hyd.

Bu dyn yma ers cyn co’. Bu’n defnyddio’r coed i adeiladu ac i gael coed tân a golosg a bu’n pori da byw yma. Deuai Sant Brynach yma i fyfyrio yn y 6edG ; mae’r garreg wrth fynedfa’r ogof yma o hyd, yn drwch o gennau a oedd efallai’n tyfu nôl bryd hynny.

Mae natur greigiog y llethrau wedi gwarchod Coedwig Tycanol rhag cael ei throi’n dir amaethyddol. Ond cai coed gwern eu torri i wneud clocsiau ac yn y 1950au daliwyd 3,000 o gwningod yma bob blwyddyn. Byddai un goeden fawr hynafol yn cynhyrchu 200 o byst pren a gwerthwyd rhwng 1000 a 1500 o byst oddi yma yn y 1950au. Oherwydd hyn prinhau wnaeth coed hynafol Tycanol. Torrwyd llawer o’r coed yn rhan uchaf y goedwig yn ystod y Rhyfel Mawr pan oedd angen golosg yn ffatrioedd arfau Port Talbot, ac yna eto yn y 1940au. Oherwydd diflaniad y coed hynafol a’r arfer o fondorri (sy’n creu cyflyrau eithafol o oleuni a chysgod am yn ail) diflannodd llawer o gynefin pwysig y cennau. Gallai llennyrch y goedwig, sydd eto’n bwysig i’r cen, a hefyd i fywyd gwyllt arall fel y gwybedog brith, ddirywio os na fydd ymdrech i’w cadw’n agored. Mae rhai o’r creigiau anferth sy’n cynnal cennau prin hefyd yn cael eu gor-gysgodi gan dyfiant a bydd angen clirio hwn yn y dyfodol. Cyn ffensio Coed Tycanol yn y 1960au byddai gwartheg a defaid wedi cadw’r lle yn borfa goediog agored iawn, Rhaid cynnal rhywfaint o bori o hyd neu fe fydd mieri a iorwg yn lledu. Ond rhaid hybu mwy o goed hynafol hefyd – gall rhain gymryd 200 mlynedd i gyrraedd cyflwr ‘hynafol’ felly mae gwaith yn digwydd mewn mannau i deneuo bonion aml-goesynnog ac annog tyfiant un coesyn praff. Y nod yw cadw Coed Tycanol yn enghraifft odidog o borfa goediog – i fywyd gwyllt ac i bobl fel ei gilydd.

Where have all the sparrows gone?

A declining population

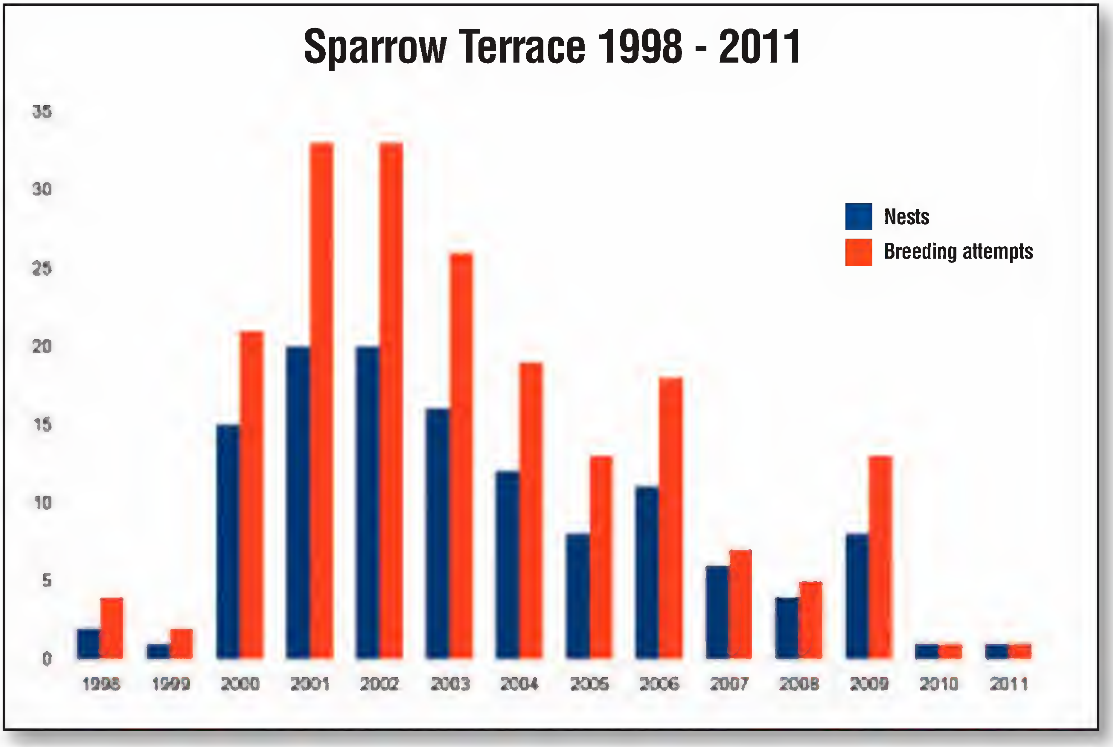
Fleur Joyce

Female house sparrow and chick

In the 5th edition of Natur Cymru (Summer 2002) ***TONY JENKINS*** *explained the early success of a project to encourage breeding house sparrows. Since then there has been a significant decline at 'sparrow terrace', but what are the reasons for it?*

In 2002 I reported on the first five years (1998-2002)[1] of a multiple nestbox to encourage house sparrows to breed at the National Wetland Centre Wales (NWCW), the Wildfowl and Wetlands Trust centre in Penclacwydd, Llanelli. House sparrows *Passer domesticus* are one of the few British bird species in decline which use nestboxes, so it seemed appropriate to provide them with the opportunity to breed colonially at NWCW.

Prior to this I had been monitoring individual nest boxes which were occupied mainly by blue tits and great tits with only a few occupied by house sparrows. Given that house sparrows often breed in loose colonies[2], I wanted to experiment whether the provision of multiple nest sites, designed exclusively for the species, would help the breeding success of local populations.



The design consists of 24 compartments arranged in two banks of twelve, known as a 'sparrow terrace', positioned on the Flamingo House at NWCW. Entrance holes in the compartments are larger (37mm) than for more conventional boxes, which generally have diameters in the 26-32mm range. As described in my original article, uptake of the terrace was slow in the first two years (1998-1999), although colonisation increased rapidly from 2000 to 2002. In 2001 and 2002, 20 of the 24 compartments were occupied, with 33 separate nesting attempts recorded in each of these years.

I have continued to monitor the terrace in the nine years since 2002. The present report incorporates the original data to 2002, together with results up to and including 2011.

Over the study period, breeding success (based on the number of fledged young to number of eggs laid) was 52%, and the overall average number of breeding attempts in each nest compartment was 1.6. Studies in Oxford showed similar levels of breeding success (52%), although the number of attempts per nest reported, was higher (2.2) (Dr. D. Dawson, pers.comm.).

The results over the last 14 years show there has been a general decline in occupancy of the terrace from 2003, with an apparent improvement only in 2009. However, 2010 and 2011 showed the lowest occupations for the whole period, with only one compartment tenanted in each year. In both cases breeding attempts failed at the egg stage.

Reasons for decline

So why has an initially successful experiment in multiple nestboxes seen such a dramatic fall since 2002? The decline of the house sparrow in the UK has been noted from 1945 to 1975[3], with a continuing downward trend to 1998[4]. A 60% decline was also reported for London between 1994 and 2004[5]. However, although house sparrows have decreased nationally by 62% over a 25 year period, the Breeding Bird Survey shows that they increased by 62% within Wales between 1994 and 2004[5].

NWCW

Sparrow terrace

National population declines and local redistributions have been attributed to a variety of factors. At NWCW, however, we can eliminate some of these as possible causes of breeding failure

Lack of nest sites due to home improvements, particularly in urban areas. This is clearly not a contributory factor at NWCW.

Effects of vehicle emissions. Vehicle exhaust emissions are also unlikely to have any great effect: although a new section of coastal link road (B4304) was constructed in 2008, adjacent to the reserve, prevailing southwesterly winds tend to carry emissions inland of the study site.

Impacts of prevailing weather conditions. The very severe winters of the past two years may well have contributed to a decline in first year overwintering fledglings as well as mature adults, although there are no reported changes in population due to weather conditions.

Annual productivity insufficient to maintain a viable population. Reduced productivity may be a factor, given that only 52% of eggs laid gave rise to successfully fledged young.

Post-fledging survival. This may be an important factor in this study, as it is difficult to quantify chick mortality in the first week after fledging.

Inadequate levels of invertebrate food resources for chicks. An unlikely cause, since other nestbox species, such as blue tit and great tit, have not shown similar declines over the same period within the study area. The NWCW centre was opened to the public in 1991 and the 16ha of landscaped grounds include substantial areas of mature deciduous trees together with other broadleaved vegetation, with few conifers and ornamental shrubs present. These conditions should therefore provide an adequate supply of invertebrate food items. Furthermore, the grounds have not been subjected to herbicide or insecticide applications in the 20 year period since establishment.

Year round availability of seeds for adults. Apart from natural seed sources there is a plentiful supply of wheat grain which has been bought and spilt by the general public to feed the wildfowl.

Predation. Predation is not considered to be a possible cause for the decline in terrace occupation. Corvids and weasels are present at the study site, but there has been no evidence of damage to nests in the terrace, or that such predators, particularly weasels, have increased locally in the past few years.

Diseases. Salmonella and the Trichomonas parasite may be linked to high chick mortality in the first week after hatching, although most failed breeding attempts in this study have been at the egg stage. Since 1998, when the terrace was installed, all compartments have been thoroughly cleaned and nest material removed at the end of each breeding season.

Fleur Joyce

Male house sparrow

During the first 13 years of the study only house sparrows occupied the terrace compartments: in 2011 a great tit nested in one box.

A study of urban house sparrows in central Edinburgh investigated a serious decline between 1982 and 1999. Factors such as predation, nest site availability, vehicle pollution and the effects of insecticide / herbicide application were considered, although no obvious reasons for the decline could be established.

Finally, while no specific factors can be positively attributed to the decline in terrace occupation at NWCW, the study will be continued in the hope that breeding levels will eventually return to those of 2001 and 2002 – here's hoping!

Acknowledgements

I am grateful to Nigel Williams, Centre Manager at NWCW for permission to access the study area. I also thank my son Richard for his constructive comments on the manuscript.

***Tony Jenkins** was a conservationist and hydrobiologist who worked for CCW from 1992-2001. It is with great sadness that we have learnt of his sudden death as we go to press. Highly respected and meticulous in his work, he was also a great colleague and friend to many involved in the conservation of nature in Wales.*

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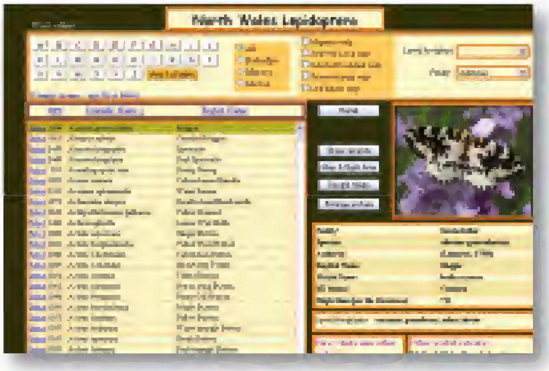
Ta-ta i adar y tô?

Yn wahanol i ditwod, nid yw adar y to yn hoff o flychau nythu unigol. Ond tybed a fyddai teras dwbl o 24 blwch yn apelio'n fwy at yr adar hyn sy'n dueddol o nythu'n lled-gymdeithasol? Crëwyd 'stryd' fach o'r fath ar eu cyfer ar warchodfa Ymddiriedolaeth Adar y Gwlyptir yn Llanelli er mwyn rhoi prawf ar y ddamcaniaeth ac mae gwaith monitro wedi bod ar y gweill ers 14 mlynedd.

Yn 2001 a 2002 roedd yr adar yn defnyddio 20 allan o'r 24 blwch ond dirywiad cyffredinol a welwyd dros y blynyddoedd. Yn 2010 a 2011 dim ond un blwch a ddefnyddiwyd ganddynt ac fe fethodd y parau hyn, hyd yn oed, â nythu'n llwyddiannus. Beth sydd i gyfrif am hyn tybed? Er bod poblogaeth adar y to wedi gostwng yn sylweddol ar draws Prydain fe gynyddodd eu nifer o 62% yng Nghymru rhwng 1994 a 2004. Gallai ffactorau gwahanol, megis prinder bwyd, ysglyfaethu, afiechydon, haint a llygredd fod wrth wraidd y dirywiad ar lefel Brydeinig ond nid oes un o'r rhain yn berthnasol i'r safle yn Llanelli. Mae'r dryswch yn parhau, felly, ond bydd y gwaith astudio yn dal i fynd yn ei flaen!

North Wales Butterfly and Moth Website



Julian Thompson

Shore wainscot

www.trawsgoed.com

As Moth Recorder for the vice-county of Caernarvonshire, people often expect me to know everything about moths. I don't. So, when I receive enquiries, or just want to know something, I open the North Wales Lepidoptera website by Andrew Graham (Merionethshire Lepidoptera Recorder), wherein all the information I could want on local butterflies and moths is available on instant recall. The website bears the unmemorable URL www.trawsgoed.com but will also be found at the top of a search for 'North Wales Lepidoptera'.

The website is not an identification guide, and doesn't purport to be. It is an online database containing almost 400,000 butterfly and moth records from the six vice-counties of North Wales: Montgomeryshire (VC47), Merionethshire (VC48), Caernarvonshire (VC49), Denbighshire (VC50), Flintshire (VC51) and Anglesey (VC52). Freely available to anyone with the internet, it aims to be a complete repository of all verified records of the 1546 (approx) species known from the area. It is based on an Access database holding all the computerised records held by the vice-county recorders.

The amount and detail of the information is amazing, but the site is easy to navigate. You can sort by taxonomic order, or alphabetically by Latin binomial or vernacular names: or you can filter it for butterflies, moths, micros, leaf-miners, food-plant or various other categories. For each species the records are summarised as text with details of caterpillar food-plants and nomenclature, and with excellent quality photos of most species.

However, the website really excels when the data is plotted to show each species' distribution map with flight-time histogram. The maps can be plotted at monad, tetrad or hectad resolution and can be sorted for any chosen cut-off date, or if preferred can be viewed in Google Maps overlaid on aerial photographs or maps of terrain. The flight histogram is not just abstracted from a text book (though this information is available too), but is drawn from the real North Walian data. By clicking on any dot on the map, the underlying record is shown, and by clicking 'show records' all records for the species are listed in a sortable Excel spreadsheet (except that for some technical reason it cannot be sorted by 'date'). Records are unabridged, with details of site name, grid reference, vice-county, date, recorder (or initials) and determiner, with the recorder's comments. Whether the record was supported by genitalia dissection is shown, as this is important when appraising records of some moths.

This is the fundamental data of all biological recording, allowing the reader to know who saw what, where and when, and to make their own analyses. All too often the value of wildlife records is diminished by summarising as just a species list or a dot map; but it is all here. I know of no other website with such complete, free access to biological records, certainly not for the Lepidoptera.

Most of us will use the site to put our own observations in context. Knowing that the Cloaked Carpet is frequent in some sites in the Conwy Valley may give us confidence in our identification: knowing that it is apparently unrecorded in Merionethshire should instil both caution and excitement were it to be found there. Andrew Graham may one day upgrade the website so that, as well as records for each species, records for a site or grid square can be abstracted. This would be fantastic, but the site is fantastic even without this facility.

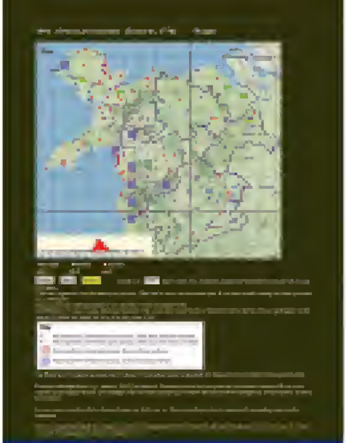
Certainly there may be errors and the vice-county recorders would welcome feedback. The main limitation of the website is the underlying data. For some vice-counties there is a backlog of data which still needs inputting but, even so, maps which show the distribution of recorders rather than of moths belie a paucity of data. The map for Large Yellow Underwing, surely the most ubiquitous moth in Britain, shows many gaps.

Please send in your records to the appropriate vice-county recorder (contacts via the website), or to one of the two North Walian Local Record Centres: BIS for Montgomeryshire and Cofnod for the other counties. Records archived in dusty notebooks, or even those on the various web-fora, are not accessible. Accessible records are the basis of all nature conservation. North Wales Lepidoptera Website is an unrivalled resource for naturalists and conservationists.

Red-green carpet moth

Julian Thompson

Julian Thompson *is Warden ("manager/CEO/odd job man/tea boy") of Pensychnant Conservation Centre and Moth Recorder for the vice-county of Caernarvonshire.*



Gwefan gwyfynnod a gloÿnnod gogledd Cymru

Os ydych yn gwyfyna yng ngogledd Cymru, mae gwefan www.trawsgoed.com yn lle ardderchog i fynd i chwilio am gofnodion bron i 400,000 o löynnod byw a gwyfynod o'r chwe pharth (yr hen siroedd) yn y rhan hon o'r wlad. Mae gwybodaeth yma am y 1546 rhywogaeth sy'n hysbys o'r ardaloedd hyn a gallwch hidlo'r wybodaeth mewn pob math o ffyrdd. Ceir yma hefyd wybodaeth ofodol sy'n dangos map dosbarthiad a histogram hedfan ar gyfer pob un rhywogaeth. Gallwch edrych ar bob map o fewn Google Maps, wedi ei osod ar ben ffotograff awyrol o'r dirwedd. Cliciwch ar unrhyw smotyn ar y map ac fe gewch wybodaeth am y rhywogaeth dan sylw.

Does yr un wefan arall yn cynnig y fath fynediad rhwydd a rhad at gofnodion bywydegol am y Lepidoptera. Os ydych yn ymddiddori yn y maes, rhowch wybod am unrhyw wallau neu fylchau ac anfonwch eich cofnodion i'w cynnwys ar y wefan. Wedi'r cyfan, gwybodaeth gadarn a hygyrch yw sail gwaith cadwraeth natur.

Abergwesyn Commons

Not such a common place

Liz Fleming-Williams

View from Drygarn Fawr, looking down the Gwesyn

Abergwesyn Commons, owned by the National Trust, are about as close to a wilderness as you get in Wales. For the last two years Project Officer ***JESS TYLER*** *has been working on management of the area, and wonders if we are taking the uplands for granted.*

There is no place I have been quite like this part of north Breconshire, the rooftop of Wales. Lichen-covered Birmingham Corporation watershed markers indicate the 11 mile boundary between the Elan Valley to the north and Abergwesyn Commons to the south. The medieval remains of long huts, summer farm dwellings, remind us how this region would have once had so many more communities relying on a land less isolated than today. The tracks of the drovers and evidence of peat cutting reflect the activities of times gone by. Prehistoric sites scattered across the area show signs of activity from the Bronze Age and before. The quartz standing stone on the hill top of Drum Nantygorlan would have been at least 2 metres tall when upright. Now it rests on its side, pointing walkers to the isolation beyond.

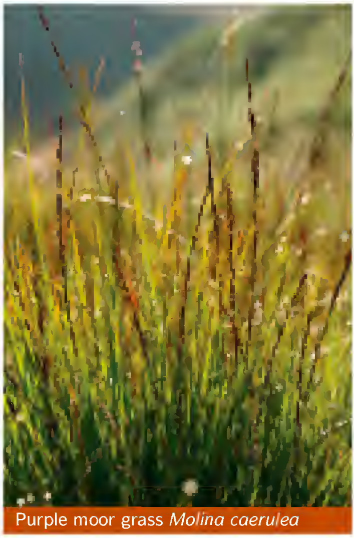
Abergwesyn Commons consists of seven contiguous upland commons, and are a prime example of land affected by many external influences. For the last two years colleague Joe

Jess Tyler

Bagging *Molinia*

Jess Tyler

Heli bags of *Molinia*


Richard Becker

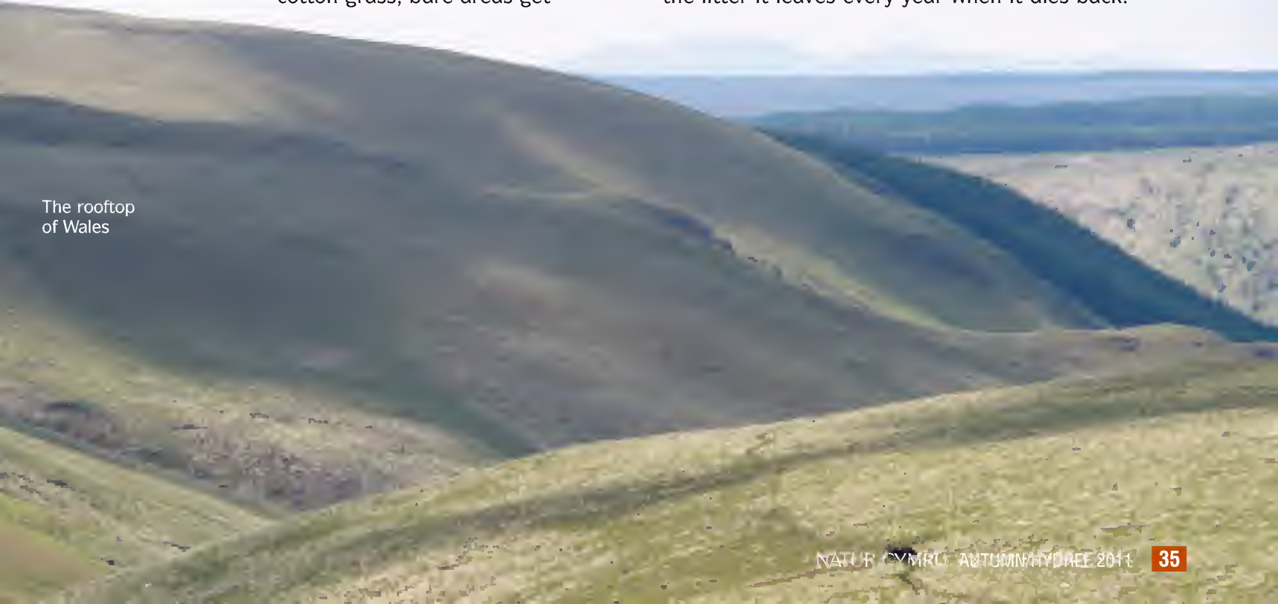
Purple moor grass *Molina caerulea*

Daggett and I have been looking at management of the area through the Abergwesyn Commons Project. We have also worked extensively on the large areas of blanket bog that exist on the commons, carrying out restoration works.

On the westernmost Common there are large gullies that drain from an area of 5-6 acres of bare peat – at worst these are 2.5 metres deep and are down to the mineral soil. Areas of bare peat are not necessarily a bad thing. Small areas of only a few square metres seem to have shifting colonies of cotton grass; bare areas get covered up and covered areas become bare. The golden plover has adapted to using these areas and it looks very much like a natural process of this relatively liquid, unstable peatland. However, the creation of larger areas of bare peat appears to be a culmination of factors caused by people rather than being part of a natural process.

Rampant *Molinia*

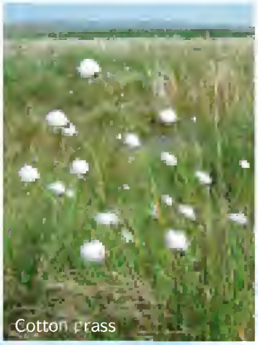
Thousands of acres of the west side of Abergwesyn Commons are dominated by purple moor grass, *Molinia caerulea*, creating a huge fire hazard from the litter it leaves every year when it dies back.


The rooftop of Wales

Jess Tyler

Welsh Blacks at work

When fire takes a hold here, square kilometres of vegetation are burnt. Ash from the burn further encourages the *Molinia*, which progressively overwhelms other bog species and aids the drying of the peat. Often these fires are superficial and only the tops of the plants are lost, but if the fire gets into the peat it can burn for weeks, even months. The damage this does to the habitat is significant.


Stuart Smith

Cotton grass

It is likely that fire damage contributed to the creation of this larger area of bare peat but, however it started, it is clear that the area is increasing in size. We decided to target one area owned by the Trust, and a series of terraces / small dams was created to slow the water flowing away from the area, catching the peat before it got washed away. Materials local to the site were used, such as peat from hags, and chunks of bare peat that had fallen from undercut banks and from lone, small hags that had been isolated through erosion. The vegetation from on top of these hags has been used to help bind the dams and stabilise them. So far these terraces seemed to have worked well.

Mowing the *Molinia*

Under the fire management part of the project, 40 hectares of *Molinia* were cut last year to reduce flammable material. Whilst these cut areas would not stop a fire, we hoped – and it was subsequently shown – that in reducing the fuel load for a fire, it would not burn so intensely. National Trust staff and some hard core volunteers filled 1,000 heli bags with 250 tons of *Molinia*, which were transported and spread across the bare peat to protect it from the elements and create a more stable environment for vegetation to grow. It is likely that some *Molinia* will grow on the mulch but, as seen through small experiments carried out elsewhere, cotton grass and bilberry should also grow. So far the work seems to be proving highly successful.

Changes to grazing

As much as the Trust would like to carry on cutting *Molinia* on the commons, it is not financially sustainable. This is where grazing comes in: in the long term the right grazing will be the answer to controlling *Molinia*. Although the National Trust owns the Commons and may have 'owner privileges',

Jess Tyler

Areas of bare peat

it does not have any grazing rights, therefore cannot manage the grazing of the land directly. This job, rightly so, falls to the farmers who own or rent the grazing rights and who are often best placed and equipped to farm these hills.

The idea of Common Land comes from the time of William the Conqueror, and the Commons Registration Act was introduced in 1965. Sheep walks of the commons were officially registered as Common Land Blocks. It is known from records over the last 1,000 years that Abergwesyn Commons have been predominantly a sheep grazing area. The Cistercian Monks, based in Strata Florida, were renowned for their wool production and for centuries during the medieval period they owned Abergwesyn Commons and more. At one point in history the king granted a royal decree stating the monks did not have to pay tax on the wool they sold. Deeds dating back two or three hundred years show ownership of up to 3,000 sheep on a single farm.

Other evidence shows there have been varying numbers of cattle, ponies and sheep on the Commons over the last thousand years, with cattle outnumbering sheep at one point, but today numbers have dramatically declined. Pony numbers have decreased, from several herds of up to 50 ponies each, to barely a handful of herds of fewer than ten ponies. Currently there is no value in hill ponies, they are no longer sold for meat, which was their main worth, so it is understandable that farmers do not keep so many.

In the last century cattle numbers have dwindled to almost nothing. There is a lot of work involved to get cattle to stick to a heft, as, if they do not, there are over 100,000 acres of open access land for them to explore. Hefts are lost and, as was shown after the foot and mouth epidemic ten years ago, once lost, hefts are difficult to get back. There are also the complications and worries of TB and other diseases spreading across herds that have no fences between them, not to mention the in-by land they will need in the winter. The financial viability of small, slow maturing cattle herds on the hill is also an important factor. Headage payments, changes in farming practices, farms lost to forestry, and farmers giving up farming for one reason or another, have all contributed to the decline. The list of obstacles goes on.

This decline in mixed grazing, with plummeting numbers of sheep, has helped *Molinia* to become a dominant plant species. Yet there still seems a policy to reduce sheep numbers without enabling or supporting the increase of ponies and cattle. The number of birds recorded, such as golden plover, red grouse and curlew, has decreased over the same period that grazing patterns have changed and the numbers of livestock on the hill have fallen. Surely there is a link here?

Jess Tyler

A way forward

This is where the whole picture needs to be looked at. As part of the blanket bog restoration, 12 Welsh Blacks have been introduced on the most westerly common, working in conjunction with a grazier. A dozen cattle are not going to solve all the problems, but are giving us a good idea of the reality of having cows on the hill and how we can overcome any obstacles.

The importance of blanket bog is recognised globally for the role it plays as a carbon store. The reality is, the resources we need to turn around, long term, the decline of this habitat, are not readily available. With any resources that do exist, we must make joint decisions with the farmers to ensure we get best value and that the work done is likely to continue. For Abergwesyn Commons to become a viable farming and conservation area, we must support the graziers to graze for the habitat we want. We may be surprised to find that what is wanted, in terms of habitat, and what the farmers would like to see, may be one and the same thing.

We hold these uplands so dear to our heart yet there is so little actual support for them. This begs the question: do we really fully comprehend the value of supporting these upland areas to breathe and adapt for the future, whatever that may bring? Or will we continue to take the uplands for granted?

In the life of this landscape we are just a blink of an eye. However, this does not lessen our responsibility towards it. Perhaps we need to listen to and support the families that have been its keepers, who have taken care of these hills for centuries, so that they will want to continue taking care of these sleeping giants for the centuries to come.

***Jess Tyler** is the National Trust's Abergwesyn Project Officer.*

Liz Fleming-Williams

Afon Gwesyn

Taclo comin Abergwesyn – cam wrth gam

Sialensau cyfarwydd sy'n wynebu'r 7 darn o dir comin anferth o fewn Prosiect Tir Comin Abergwesyn. Gormod o laswellt y gweunydd, ardaloedd helaeth o fawn agored yn erydu, niferoedd stoc yn disgyn ac adar gwyllt yn prinhau…..

Nod y prosiect yw canfod atebion ymarferol i'r problemau hyn. Yn ystod y 2 flynedd ddiwethaf caewyd ffosydd a chrewyd terasau yn y darnau o fawn noeth er mwyn arafu llif y dŵr ac atal diflaniad y mawn. Torrwyd ardaloedd o laswellt y gweunydd, sy'n creu cymaint o berygl tân oherwydd y matres o ddeunydd gwyw sy'n casglu ar y ddaear oddi tanodd, a thaenwyd y torion dros y mawn agored. Bydd hyn yn gwarchod y mawn rhag tywydd garw ac yn rhoi cyfle i blu'r gweunydd a llus egino.

Mae sefydlu trefn bori addas yn her fawr. Defaid fu yma'n bennaf dros y 1,000 mlynedd ddiwethaf ac roedd mynachod Ystrad Fflur yn enwog am gynhyrchu gwlân. Bu rhywfaint o wartheg a merlod yn pori hefyd. Ond prinhau mae'r merlod oherwydd nad oes galw am y cig ac mae gwartheg wedi diflannu'n llwyr o'r ucheldir oherwydd problemau cadw stoc ar ucheldir eang a phryderon eraill, fel lledaeniad TB. Fel y mae niferoedd stoc wedi disgyn, lleihau hefyd mae poblogaethau adar fel y cwtiad aur a'r gylfinir. Cyflwynwyd 12 o wartheg duon Cymreig yn ddiweddar – cam bychan ond gwerthfawr o ran gwella'n dealltwriaeth o anawsterau ac ymarferoldeb ffermio ar yr ucheldiroedd hyn, sydd mor bwysig i ni gyd.

Mammal news

New mammal project

The Vincent Wildlife Trust, CCW and Snowdonia National Park Authority (SNPA) have just launched a new mammal survey and conservation project in north- and south-west Wales. The **Mammals in a Sustainable Environment** (MISE) project is a partnership between Wales and Ireland, which will promote community involvement and offer volunteers opportunities to get involved with mammal conservation. Survey work will include monitoring stoats, weasels, otters, bats, red squirrels, harvest mice, and dormice, using methods such as hair tubes, bait pots and scat collection. The project lead partners in Ireland, at the Waterford Institute of Technology, have developed new techniques for genetic identification from hair and faecal samples, which will make it possible to monitor species that are difficult to survey using other methods. These genetic methods also provide information about the diet of some mammal species. For more information contact Jenny MacPherson **jennymacpherson@vwt.org.uk or Ceri Morris c.morris@ccw.gov.uk**

Lesser horseshoe bats

In April 2011 The Vincent Wildlife Trust employed a project officer for their 'Our Beacon for Bats' project, a three-year project focusing on the lesser horseshoe bat in the upper Usk valley between Brecon and Crickhowell. The area is an internationally important stronghold for the species and includes the largest maternity roost in northern Europe. The aim is to identify foraging habitats, commuting routes and structures being used as roosts. A 'BatMap' will be created to illustrate the survey findings throughout the life of the project. If you would like to become involved contact Kirsty Mallindine **07584 416502** or **kirstymallindine@vwt.org.uk**

Day-flying bats

Ben Stammers observed pipistrelle bats hunting during daylight (mid-morning, mid- afternoon and pre-sunset evening) over several days in Drefelin, Carmarthenshire. The site was a sheltered valley with thickly wooded sides and a stream running through it. Occasionally there were swifts and bats hunting simultaneously. Do *Natur Cymru* readers have other records of day-flying bats?

Otter survey

Otters are showing a dramatic return to our Welsh waters. Environment Agency Wales (EAW) has revealed the full findings of its latest otter survey – nine out of every ten sites surveyed across Wales show signs of otters, compared to only two out of ten in 1978.

Otters are now present at around 1,000 sites in Wales, as evidenced by the species' distinctive (jasmine tea scented) droppings known as 'spraints', and their five-toe footprints. The survey is the fifth of its kind, with the last survey in 2002.

EAW credits the otters' return to a ban on pesticides, the introduction of legal protection, and a dramatic improvement in water quality in Welsh rivers. EAW's biodiversity officer Rob Strachan said: "The otter is an important biological indicator of the health of our rivers and wetlands. Monitoring its status gives us a valuable measure of how well our water environment is faring."

Over 100 people helped deliver the *Otter Survey of 2009-10*. Contact Rob for the results: **01248 484076** or **rob.strachan@environment-agency.gov.uk**

Red squirrels

Nigel Brown reports that red squirrels are now regularly seen at Treborth Botanic Gardens near Bangor. These are almost certainly all animals from the reintroduction scheme at Plas Newydd on Anglesey. One proved to be a Scottish haplotype used in the Plas Newydd reintroduction, according to Craig Shuttleworth. As a result, more intense grey squirrel trapping is now being conducted at Treborth by Craig's team. Two students at Bangor University are doing regular monitoring transects using visuals and hair tubes, and they have had some good results already. North Wales Wildlife Trust has also had first records of red squirrels on its Spinnies, Aberogwen and Mariandyrys nature reserves, both not far from the Menai Strait.

Treborth has a welcome increase in weasel and stoat sightings, including stoat with young hunting in and around the meadow plots; they are very bold and have been seen several times in the middle of the day. This may be connected with high rabbit numbers, though myxamatosis has now struck.

Frances Cattanach *is Director of North Wales Wildlife Trust.*

A vital habitat for Lepidoptera

Butterflies and moths are known to be valuable indicators of the changes affecting the countryside and recent studies suggest that a large number of species are in rapid decline.

This decline is particularly extreme in woodland habitats, where butterfly abundance has more than halved since 1990 when a baseline for populations was established (historical declines prior to this are not recorded but are likely to be even more severe). There is also clear evidence of very significant declines in many woodland moths.

Woodlands are one of the most important habitats for butterflies and moths, supporting around three quarters of all Britain's resident butterfly species, with 16 species specifically reliant on woodland. Over 500 species of the larger British moths occur regularly in woodland.

There are around 304,000ha of woodland in Wales, and Forestry Commission Wales (FCW) manages 105,000ha of this on behalf of the Welsh Government. Butterflies and moths are one of the most threatened wildlife groups, with sites supporting some of Wales' most endangered species including the Drab Looper moth (*Minoa murinata*) and Grizzled Skipper butterfly (*Pyrgus malvae*).

Reasons for decline

Why are woodland butterfly and moth populations declining? It is not that woodland area is decreasing: woodland cover in Wales has increased from 4.2% of the land area at the beginning of the 20th century to 14.3% today. The primary cause of the decline is the loss of suitable habitat through changes in woodland structure, a result of changes in both the type and extent of woodland management.

Active management such as coppicing, thinning and grazing, which creates habitat diversity, has declined and farming intensification has resulted in woodland loss and fragmentation. Many ancient woodlands have also been replanted with monocultures of non-native conifer, removing valuable structure and foodplants.

Clare Williams

Improving habitat

Woodland butterflies and moths need a diverse, uneven structure which provides the different habitats necessary for their various life stages, including larval foodplants growing in appropriate conditions. Continuity of management is vital: suitable habitat does not last forever and woodland Lepidoptera are dependant on regular management to provide continuity of short-lived habitat conditions. Finally, as it is seldom possible to provide all species requirements continuously in a single woodland block, conservation must also operate at a landscape scale to be effective in the long-term.

Since 2001 Butterfly Conservation (BC) has been working with FCW to improve woodland management for butterflies and moths, to address some of the issues of declining populations. Using a targeted approach, work is undertaken at forest sites that support core populations of some of our most threatened species. BC staff and volunteers undertake annual population monitoring and periodic habitat assessments to assess the effectiveness of works undertaken. Results are fed back to FCW to focus subsequent management work.

Denbighshire

The Small Pearl-bordered Fritillary (*Boloria selene*) has been studied for

Clare Williams

Small blue

the past nine years in the extensive upland spruce plantation (over 5,500ha) of Clocaenog and Alwen in Denbighshire, to understand how it responds to forest management at a landscape scale. BC's research has shown that the butterfly occupies over 50 discrete riparian sites or recent clear-fell areas in the forest, and that these sites are linked by occasional dispersal of individuals. Between-site movements of up to 3.5km have been recorded for what was previously considered a highly sedentary butterfly. The research confirms the butterfly is operating across the forest system and we are working together to maintain site quality and connectivity, on an appropriate scale, to keep this dynamic system functioning.

Carmarthenshire

At Pembrey Forest, a sand dune forest near Burry Port in Carmarthenshire, BC and FCW have joined forces with British Trust for Conservation Volunteers to deliver targeted management and equip volunteers with key skills. This includes creating an exemplar 'butterfly ride' – a sunny, wide, scalloped, well-connected ride, with varied 'three-zone structure' and rotational cutting. On remnant sand dunes selective scrub clearance is designed to retain warm, unshaded areas which support nationally important populations of Small Blue (*Cupido minimus*) and Grizzled Skipper butterflies.

Monmouthshire

In the Hendre Woods near Monmouth, work is underway to support the Drab Looper's future survival, which hinges on maintaining a continuous supply of Wood Spurge (*Euphorbia amygdaloides*) growing in sheltered, well connected areas. The majority of the Welsh populations of this species are on FCW managed land. Volunteers are helping maintain the suitability of a core area in the woods and there is progress on a longer term plan for ride corridor management and a coppice coupe system.

Jim Asher

Grizzled skipper

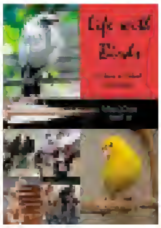
A number of other examples of this joint work can be found in the first edition of the *Forest Fliers* newsletter produced by BC in partnership with FCW. It is available on the FCW website at: **http://fcnotes/forestry/INFD-8JXC2K**

Butterfly Conservation has recently published a best practice guide *Woodland management for butterflies and moths* which can be downloaded from their website **www.butterfly-conservation.org**

Butterfly Conservation also has fact sheets detailing the ecology of more than 50 different butterflies and moths. Habitat management recommendations are included. There are also fact sheets on a number of important moth foodplants which cover habitat management for moths on these plants. These can be downloaded from **www.butterfly-conservation.org/priorityspecies factsheets**, and **www.butterfly-conservation.org/habitatadvice**.

Clare Williams
Conservation Officer, Butterfly Conservation Wales
cwilliams.bcw@btconnect.com

Green **Bookshelf**



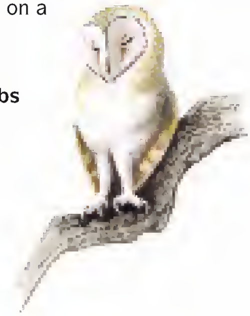
Life with Birds – a Story of Mutual Exploitation

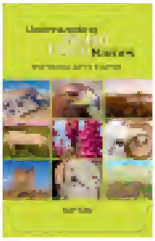
Malcolm Smith
Whittles Publishing 2011
172 pages
£18.99

The author was formerly Chief Scientist at the Countryside Council for Wales, and has always been an enthusiastic communicator about wildlife, for a wider audience than most of us have aspired to reach. In *Life with Birds* (not to be confused with *The Life of Birds* by David Attenborough) he ranges widely across the field of direct human-bird interactions. If you want to know where eiderdown comes from, how a grouse or pheasant shoot is run, what happens at a cockfight, the scale of illegal hunting of birds in the Middle East, how birds are farmed for food, what carrier pigeons carried, which birds live in cities, the scale of birds as pests in agriculture, birds on rubbish tips, birds in art, poetry and superstition – then you find it all here, and a lot more besides. The book is illustrated with 20 pages of colour photographs. Further reading is listed on a half-page and there is no index.

Malcolm has researched all these topics and often gone straight to primary sources all over the world to get an accurate story. Many of us with a keen interest in birds will know a lot of this already, but I'm sure any reader will find something new. Who would have believed that as recently as 1977, pigeons were carrying blood samples to a lab in Plymouth. This is in Chapter 4. Let's hope the falconers (Chapter 2) kept their birds on a tight rein!

Geoff Gibbs





Understanding Welsh Place Names

Gwili Gog
Northern Eye Books 2010
96 pages Softback
£7.99

With its emphasis very much on geography, this is a book that belongs in the pocket, rucksack or glove compartment of the traveller. One third of the book, for more general use, lists geographically descriptive place names, connected to distinctive features such as streams, forests, churches and animals. The remainder is ordered by modern county. Each is visited in turn, listing all the place names found there, so wherever you live or visit you can turn to your county and find out all about it. Some of it is familiar, such as the most famous, longest name of all – you know the one I mean – complete with full translation, but most of it is a gentle journey through Welsh history, with many reminders of a landscape and wildlife long gone. Where now are the wolves of *Coed-y-bleiddiau*, or the boars from Cardiff's *Pentyrch*?

The place name lists are interspersed with paragraphs on Welsh history, mythology, archaeology, customs, farming practices, geography, geology, and much more. These 'themes' are given their own extra contents page.

With no standard alphabetical index, this is not an ordered dictionary for academics at desks. The county listings only go down to village level, so if you wanted to know why a field was called cae *eithin* ('gorse field') and you had no idea whether eithin was a water feature or part of a chapel, you would be struggling. The counties, too, seem to be laid out in a vaguely geographical way, obliging readers to refer to the Contents each time to find the page number. If they had been ordered alphabetically you could easily thumb through to find the one you want. But these are small gripes. This is a very attractive small book, beautifully illustrated, and being forced to meander through it on your search is no hardship.

Mandy Mars

Gold under Bracken

Richard Hartnup
Y Lolfa 2011, 127 pages, £9.95

Many years ago I was challenged to make some soil. Handed a cloth bag and a hammer with the words "you know what goes into it". An interesting lesson because of course it isn't so easy, which is why soil is such a precious resource. The preface to *Gold under Bracken - the land of Wales* is inspiring and leads you to want to find out more. Having captured the reader's attention, Richard devotes a chapter to each of the major landscape features such as estuaries, heaths, moorland, lowland bogs and the deep gorges or *ceunentydd*. I've visited some of the gorges he mentions and now have more to visit! He shows how the underlying geology and landform determine the development of the soil and its characteristics. These factors determine what we call 'landscape'. Man's activity since prehistoric times has had its influence, and now the soil and climate support the plants we think of as typical of sessile oak woods or sand dunes.

The title of the book refers to a Welsh proverb which accurately describes the Manod soils, deep enough for bracken rhizomes and a golden colour indicating its good quality to the farmer. A photograph shows Manod Mawr, the rounded mountain just east of Blaenau Ffestiniog. In the foreground are pastures on Manod soils. Anecdotes and historic references pepper the text, which also explains terms familiar to soil scientists for the general reader. There are plenty of excellent photographs, suggestions of places to visit to see the features described, and some more detailed excursions.

Everyone who enjoys the landscape of Wales, remote places and wild flowers, will gain added interest by delving into this book and using it as they follow some of the suggested walks. Very good value and highly recommended.

Kate Gibbs

The Natural History of
HOVERFLIES

The Natural History of Hoverflies

Graham E. Rotheray & Francis Gilbert
Forrest Text, Ceredigion, £32.50 348 pages

After Lepidoptera and Odonata, the hoverflies must be one of the most accessible insect groups. At about 270 species, the British list is not overwhelming. They offer a range of challenges, from Volucellas that can be identified with a hand lens, to Sphaerophorias that require dissection of genitalia. And, crucially, in Stubbs' and Falk's *British Hoverflies* they have a high-quality identification guide. What the group has lacked is an accessible description of their biology and ecology. This gap has been comprehensively filled by *The Natural History of Hoverflies*.

The book covers the familiar adults that we see each summer, with a description of British and European species. But the larval stages, which are even more ecologically diverse, are also given lavish treatment. Not surprisingly, the role of hoverflies in pollination is extensively covered, but the ecological services that they provide extend well beyond this: some species' larvae are voracious predators of pests such as aphids.

Many readers of *Natur Cymru* will be familiar with hoverflies' mimicry of bees and wasps, both in looks and behaviour. The mimicry of some can be striking, but many others have only a passing resemblance to Hymenoptera. The authors have some interesting views on how such imperfect mimicry has evolved and is sustained, with some hoverflies attempting to mimic several species, and opting for a 'bodged job' as a result.

If I had any criticism, it is that statements occasionally get made which leave the reader wanting more, but no reference is provided. I know (Tedious, 1998) that excessive (Yawn, 1963) references (Dull and Boring, 1984) can get in the way (Lookhowmuch – I'veread, 2010) of good writing, but the use of endnotes could have avoided this. For a book that will find a place in many college and university libraries, this is a shortcoming.

The book is written much in the style of the New Naturalist series, and I wondered whether the authors offered it to Collins. However, Forrest Text has done an excellent job of publication. The book is well illustrated and, as a paperback, very affordable.

For anyone with an interest in Hoverflies, or even just invertebrates in general, *The Natural History of Hoverflies* is a must-have book. It can be highly recommended to the amateur naturalist and professional ecologist alike.

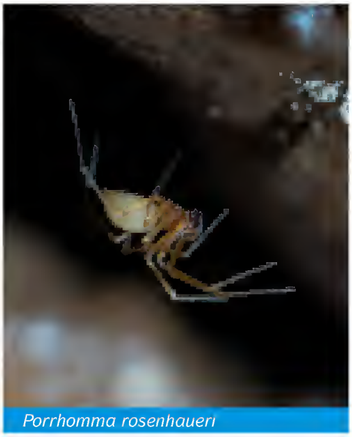
Andrew Lucas

The Cave Spider Hunt

Lesser Garth Cave is part of a small complex of caves located on the northern edge of Cardiff next to the Taffs Well quarry. A small spider living in the cave, *Porrhomma rosenhaueri*, the UK's only truly troglobiont spider, is the subject of an ongoing research study by Amgueddfa Cymru-National Museum Wales.

Whilst the cave dwelling fauna of the UK has undoubtedly been under-recorded, sufficient work has occurred to suggest that *P. rosenhaueri* is genuinely very rare. It is found in only one other site, the Ogof y Ci cave system near Merthyr Tydfil, where the species was first discovered in the UK during the early 1970s. There is currently little information on the lifecycle of the species on which to base conservation decisions, and consequently the spider is listed as Endangered (EN) using the International Union for Conservation of Nature (IUCN) classifications.

P. rosenhaueri is a difficult spider to spot as it is only around 2mm long. It is found on a fine web that spans small clefts in the walls and floors of the cave, and has features expected of true cave dwelling animals, being very pale in colour and blind, although rudimentary eyespots are still visible. It was first discovered in the Lesser Garth Cave in 1979. In 1996 the adjacent large and active Taffs Well quarry put in an application to extend operations near the Lesser Garth Cave, and the Department of Biodiversity at the Museum was commissioned to conduct a biological survey with the view to establishing if *P. rosenhaueri* was still present. The survey found six live animals and evidence for many more, as well as recording a good variety of other invertebrate species present in the cave.


Porrhomma rosenhaueri

Amgueddfa Cymru National Museum Wales

Searching Lesser Garth Cave

Amgueddfa Cymru National Museum Wales

More recently the Countryside Council for Wales (CCW) contacted researchers at the Museum about developing a standardized survey method under the Common Standards Monitoring (CSM) protocol to monitor the size and viability of the spider population. For this, a set transect of the main passage in the cave was systematically searched for evidence of the spiders. The first transect survey, in September 2009, found 17 live spiders whilst a follow up visit in December 2009 found only six live spiders, although both surveys found evidence of many more spiders through the presence of their webs. Overall, the result of the survey work to date suggests that the *P. rosenhaueri* population is still well-established in the cave, and starts to give insight into the spiders' life history. Both visits also found many of the other species associated with cave habitats, further demonstrating that the Lesser Garth Cave is an important site for speleobiology in the UK.

However, various questions remain. The only other UK population of *P. rosenhaueri* is over 20 miles away at Ogof y Ci. How do these populations relate to each other and the other European populations? How do these spiders find and colonize their habitat? Further work, including DNA analysis of the two populations, is currently being undertaken by the Museum to try to answer these questions.

Please note that the cave is on land owned by the quarry company Cemex UK, from whom permission to enter the cave should be sought. Caving can be a dangerous sport and hazards such as pitches and climbs exist in the cave. Do not enter a cave unless properly equipped and experienced.

***Julian Carter**, Conservation Officer*
Amgueddfa Cymru-National Museum Wales.
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Giant Hogweed – invasion on the River Usk

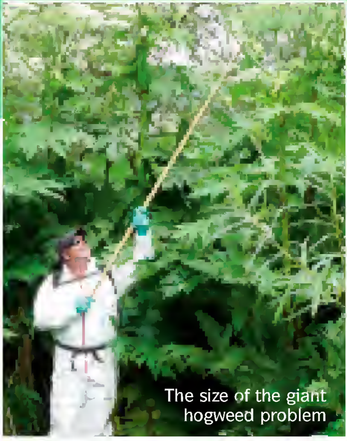
Riparian areas of the lower River Usk are infested to varying degrees with the invasive plant giant hogweed (*Heracleum mantegazzianum*). The problem mainly extends from the Crickhowell area to the tidal limit at Newbridge-on-Usk but the plant is also found in small numbers close to the mouth of the Usk in Newport. The invasive nature of the plant leads to degraded habitats, both in biodiversity terms and aesthetically. There is also reduced recreational value due to public health concerns associated with the plant – its sap can cause severe blisters which are sensitive to sunlight. Parts of the designated Usk Valley Walk are badly affected by giant hogweed, as is access for fishermen. This is an escalating problem with the potential seed bank in the ground increasing year to year.

I decided to look into the problem about ten years ago in order to assess the scale of resources needed to try and control this invasive plant. As it happened, we had some MSc students looking for projects around that time and I managed to persuade Angela Harris from the University of Glamorgan to take on this exciting work. Well, perhaps not that rivetting, but a very worthwhile topic nevertheless. Angela's work included mapping the extent of the giant hogweed distribution along the River Usk; trying to establish the amount of control work going on at that time; and estimating the cost of eradicating the plant. Although some control work was going on, it was ad hoc, and nobody knew who was doing what and where. Angela's work provided valuable baseline information and gave us an idea of the scale of the problem.

It was obvious that this issue was too big for one organisation to take on. Following the initial feasibilty study, I set up a collaborative project (2005-06).The Environment Agency funded the first phase of a co-ordinated control programme which included survey and mapping and the development of an appropriate control strategy. Other principal partners included Brecon Beacons National Park Authority, Countryside Council for Wales, Keep Wales Tidy, Monmouthshire County Council and the National Trust. The process involved substantial consultation with riparian owners and interested parties. Existing and new information was used to map the extent of the problem in the Usk riparian corridor.

Control work on the ground was started in the Spring of 2006, with efforts centred on the Crickhowell and Abergavenny areas. Five control teams, working in close collaboration, carried out herbicide treatment of giant hogweed. The aim is to stop seed production at the upper extent of the infestation and prevent the seeds entering the river and spreading the problems downstream.

In subsequent years I organised a number of forum events (2007 and 2009) which allowed interested parties such as riparian owners, fishing groups, walkers, etc. to be kept informed of the progress of the project and to feed back any relevant information. More recently, the Wye and Usk Foundations have come onboard and their control team has filled in gaps created by the loss of key personnel from other contributing organisations.



The size of the giant hogweed problem

Keep Wales Tidy

Work is progressing well, but with giant hogweed seeds in the ground being viable for up to ten years, this is a long-term strategy. There are already benefits for conservation, recreation and for flood defence maintenance issues – better access and reduced health and safety issues are good news for all river users.

This is proving to be a very successful collaborative project and is a good example of a number of partners working together to achieve a common goal. It has generated a lot of media interest and has been featured on BBC Wales TV and Radio news. Jane Davidson, former Environment and Sustainability Minister, has shown a keen interest in the project and used it to launch the GB INNS (Invasive non-native species) Strategy in Wales.

__Stuart Craxford__ is Technical Officer in the Biodiversity Team in Environment Agency Wales.

Sefydliad Rheolaeth Cefn Gwlad a Chadwraeth Cymru
Welsh Institute of Countryside and Conservation Management

Welsh Countryside and Coastal Management Fair at Llanerchaeron

On 29th September NATUR and the National Trust will hold the first fair to celebrate the management of the Welsh coast and countryside, showcasing countryside and conservation professions from across Wales. It will be an ideal opportunity for field-based staff, rangers, wardens, heritage managers and visitor or interpretation staff to see and discuss different techniques, equipment and experience.

The National Trust has been a great supporter of NATUR and it is particularly fitting to be holding the Fair in Llanerchaeron, a beautiful 18th century estate which is still run by The Trust as a self-sustaining enterprise. Sustainable management is the key theme.

The Fair is open to the public with machinery and stock demonstrations, market stalls, and guided walks. There will be presentations by George Peterken and John Rodwell; a bats and buildings talk; seminars on grazing co-ordinated by PONT, and on management planning run by the Conservation Management System (CMS) Consortium. Booking information is available on **www.esdm.co.uk/cms/seminars.asp**
Full programme: **www.natur.org.uk**

Courses

NATUR has been working with Lantra and Agored Cymru to formally recognise selected professional courses in Wales. There are excellent courses provided by the likes of the Field Studies Council and Plas Tan y Bwlch, which until now have not had recognition from a formal accreditation body. These courses are now linked to National Occupational Standards, a nationally recognised system, which will bring credit to the training providers and the guarantee of a recognised standard to course participants.

Events

If you have ideas on what NATUR can provide, please let us know. We aim to fill in the cracks rather than replace existing courses. Recent events include Wildlife Crime training, Woodland Management and a Tree Health and Safety Best Practice-Sharing day.

If you're running courses of your own, don't forget to let us know: our quarterly training e-bulletin is disseminated widely, and it's free to advertise your events.

Website

David O'Connell from Ogmaworks has created a new website for us at **www.natur.org.uk** – we are still working on it, but do look and tell us what you think should be there.

NATUR – y diweddaraf

Dewch i Lanerchaeron ar Fedi 29ain os am ddysgu mwy, a thrafod gwahanol dechnegau, offer a phrofiadau sy'n rhan allweddol o reoli amgylchedd naturiol Cymru yn y 21ainG.

Hon yw'r ffair gyntaf i'w chynnal gan Natur, sef y Sefydliad Cymreig ar gyfer Rheolaeth Cefn Gwlad a Chynefinoedd Morol. Bydd y ffair yn addas i bawb sy'n rheoli ac yn dehongli treftadaeth, neu sy'n ymddirddori yn y maes – datblygiad cynaliadwy yw thema allweddol y ffair a fydd yn agored i'r cyhoedd.

Mae NATUR hefyd wedi bod yn brysur dros y flwyddyn ddiwethaf yn datblygu gwefan newydd (ydi hi'n plesio? Rhannwch eich barn!) ac yn cydweithio gyda LANTRA ac Agored Cymru i sicrhau cydnabyddiaeth ffurfiol i gyrsiau proffesiynol dethol, fel y rhai a gynigir gan Blas Tan y Bwlch a sefydliadau eraill.

Ac os oes gennych chi wybodaeth am gyrsiau a digwyddiadau sydd i'w cynnal yn ystod 2012, cofiwch roi gwybod i NATUR, gan fod y gwaith o baratoi'r digwyddiadur blynyddol ar y gweill ar hyn o bryd.

NATUR is the professional institute for all those who manage, conserve and promote the living and cultural environment of land and sea in Wales.

NATUR provides:
- Professional status: membership of NATUR is recognised as a common standard by all the major employers in Wales
- Resources to promote career development: mentoring and support
- **Free entry** to NATUR events and discounts on certain professional training courses with our partner training providers
- Opportunities to share experiences and skills with others

For more information contact Marie Madigan, **07837 419995** / **marie@natur.org.uk**

Marine matters

Public consultation is due this autumn on the suggested locations for the new forms of Marine Protected Areas (MPAs) in the wider seas around Wales. So it is appropriate to reflect, not just on the forthcoming management challenges, but on making the best of limited information on places largely hidden from view. Often information was gathered with other ends in mind than charting the distribution of habitats to be cherished. With the aid of Global Information Systems, remarkably good predictions can be made by using knowledge of as full a range of environmental variables as possible to fill gaps between actual survey stations.

It is only relatively recently that advances in technology, such as side-scan and multi-beam sonar, allow habitats of whole swathes of the seabed to be visualised. When backed up by targeted deployment of remotely operating digital underwater cameras, it would technically be possible to bring biotope maps of almost the whole of Welsh Seas close to the level of those available for the terrestrial Wales. For a variety of reasons, including funding, this type of cover is distinctly patchy at present. Even in the Outer Bristol Channel, with funding streams driven by demand for building sand, only spaced out corridors could be mapped. Nevertheless, some other countries are well on the way to mapping their entire Exclusive Economic Zones, integrating knowledge of the bathymetry with the superficial geomorphology and the biological resource. Some parts of Welsh seas have almost enough 'known knowns' to make informed decisions on potential MPAs, and in others some predictions can be made on 'known unknowns'. We must still make allowance for the 'unknown unknowns' that later become 'knowns'.

The 'known unknown'

The Brown *Venus Callista* chione is a large bivalve mollusc whose occurrence off Wales has long been an enigmatic 'known unknown'. It is one of those southern species thought to reach the northern limits of its distribution here. The large robust shells are quite frequently found on beaches around Cardigan and Caernarfon Bays. They are superficially similar to those of the Arctic Clam *Arctica islandica*, which is famous for its extreme longevity and whose growth rings, like tree rings, indicate past climate fluctuations.

In spite of the frequent presence of *Callista* shells, records of live ones around Wales were lacking until quite recently, the nearest known extant populations being around the Scilly Isles and south of Cornwall. It was, however, cited by Edward Forbes in the 1890s as one of the species defining a south-western marine biogeographic zone reaching as far north as the west side of Anglesey – though when writing what was then the standard work on bivalves, he mentions never having seen it live himself. Whether a correspondent of his who found it in Caernarfon Bay collected shells or live animals is not clear. About five years ago *Callista* was found by chance living in significant numbers in a very small area offshore in Cardigan Bay. Several age classes of the bivalve were present, along with hundreds of well worn shells, indicating that an 'unknown' population must have survived locally for a considerable time. Most bivalves, including those in the same family as *Callista*, broadcast eggs into the water column and, over the several weeks larvae take to develop to the settling stage, they will be dispersed widely.

Callista chione shell

Ivor Rees

There are several other 'unknowns' about this bivalve. Could they have been more common in the past, perhaps during the medieval warm period? Did they die out in Caernarfon Bay in the very severe 1962/63 winter? It is an edible species still fished around Mediteranean countries and Portugal, even being found in Neanderthal middens. In theory, some could have been carried here as long ago as the Bronze Age when the western seaway was a very significant trade and cultural exchange route. So often, as some aspect of our marine fauna becomes 'known', further 'unknowns' for their conservation are thrown up. *Callista* had been considered for inclusion in the lists of UK Biodiversity Action Plan species but it was left off because not enough was known about it.

Ivor Rees

Hysbysfwrdd / Noticeboard

If you would like your wildlife event to feature on these pages please contact us on 01248 387373 or email info@naturcymru.org.uk (entries may be edited). Please mention Natur Cymru if you attend any of these events.

Tell us what you would like to see here...

North Wales Wildlife Trust

LACEY LECTURE
The Trials and Tribulations of a Wildlife TV Presenter
25 Nov 7.30pm, Catrin Ffinch Centre, Wrexham.
BBC Wildlife presenter and former NWWT employee, Mike Dilger, contributes regularly to many wildlife programmes. He is a Bangor graduate and started his career as a warden at our tern colony at Cemlyn, Anglesey. Come along and hear about some of his amazing experiences, beginning with the terns. Tickets: **01248 351541.**

Biodiversity Dates

Autumn Great Nut Hunt
www.greatnuthunt.org.uk
26 Nov-4 Dec *National Tree Week*
www.treecouncil.org.uk
5 Dec *International Volunteer Day*
www.unvolunteers.org/

Fenn's Whixall & Bettisfield Mosses

EVENTS
9 Oct *Fungal Foray* with Roy Mantle. Meet at Fenn's Bank Lay-by 11am and 2pm.
9 Nov *A Peat-cutter's Life* 7.30pm with Bill Allmark. Whitchurch Infant School.
Paul Huxley **01948 880362**
paul.huxley@naturalengland.org.uk
Volunteer Practical Group meets **2nd Sun & 4th Thurs each month**. Pete Bowyer **0300 060 0269**
peter.bowyer@naturalengland.org.uk

Aberystwyth University

LIFELONG LEARNING COURSES
At: Denmark Farm, Lampeter
14 Oct *Pond And Stream Invertebrate Life*
21 Oct *Sowing the Seeds of Sustainability - Intro to permaculture*
At: Centre for Alternative Technology, Machynlleth
30 Sept *Autumn Migrant Birds*
30 Sept *Pond And Stream Invertebrate Life*
30 Sept *Farm to Fork*
Full details: Dr Paula Hughes, Aberystwyth University, SELL, Old College, King Street, Aberystwyth, Ceredigion SY23 2AX **01970 621580 learning@aber.ac.uk**

Pen Llŷn a Sarnau

EVENTS
12 Nov *Morfa Madryn Bird Walk* 10.30am - 1.00pm. Easy walk to see the winter ducks and waders along the shore and Morfa Madryn reserve-pools. Meet: beach car park, Llanfairfechan promenade. Free, suitable for all ages, children to be accompanied by an adult. Booking essential, Alun Jones **01492 575200**. Keep up to date with our events at **www.penllynarsarnau.co.uk** *or* **www.gwynedd.gov.uk/biodiversity**

Plas Tan y Bwlch, Snowdonia

COURSES
4-7 Oct *Dyfrgwn / Otters – Surveying, Conservation & Law*
www.plastanybwlch.com
01766 772600
6-8 Feb 2012 *Reducing Risks - Ecosystems and Human health and well-being in the UK.* For more information contact Julia Korn, CCW Senior Biodiversity Coordinator **j.korn@ccw.gov.uk 01248 387350**

RSPB North Wales Local Group

FIELD OUTINGS
Contact: Jon Clarke **01492 545984**
www.rspb.org.uk/groups/northwales
16 Oct *Foryd Bay, Caernarfon & "The Spinnies",* Aber Ogwen. 10.30am Leisure Park, Cark Park (Not Town Centre Leisure Centre) (OS Ref: SH 474626).
27 Nov *Park Gate & Inner Marsh Farm, Wirral.* 10.00am at Car Park, rear of The Boathouse Restaurant (OS Ref: SJ 275787). Car sharing suggested
10 Dec *Caerhun Area (Morning).* 9.00am at Caerhun Church Car Park (OS Ref: SH 776704)

ILLUSTRATED TALKS
7.30pm at St David's Church Hall, Penrhyn Bay, entrance £2
21 Oct *The Biggest Twitch* by Alan Davies & Ruth Miller
16 Dec *Celebration of Birds* by Peter Holden

Wildlife Trusts Wales

The Wildlife Trusts offer a huge number of events & courses all over Wales. Contact them for a full programme.
Brecknock
www.brecknockwildlifetrust.org.uk
01874 625708
Gwent
www.gwentwildlife.org
01600 740600
Montgomeryshire
www.montwt.co.uk 01938 555654
North Wales
www.northwaleswildlifetrust.org.uk
01248 351541
Radnorshire
www.radnorshirewildlifetrust.org.uk
01597 823298
South & West Wales
www.welshwildlife.org
01656 724 100

Tŷ Newydd National Writers' Centre for Wales

Llanystumdwy, Cricieth, Gwynedd LL52 0LW
10-15 Oct *Nature Writing* with Nigel Brown & Mark Cocker. Guests: Kim Atkinson & Christine Evans.
www.tynewydd.org 01766 522 811

Institute of Ecology & Environmental Management Annual Conference

REBUILDING BIODIVERSITY
2-3 Nov, The Liner Hotel, Lord Nelson Street, Liverpool L3 5QB
This conference aims to inform delegates of the strategic and practical approaches to conserving and rebuilding biodiversity in the UK.
http://www.ieem.net/

Diolch am y lluniau i / For illustrations, thanks to:
Mandy Marsh, Alastair Robertson

Back issues of *Natur Cymru* (Nos 2 - 39) are available priced £3.00

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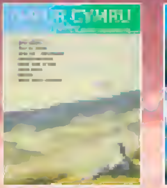
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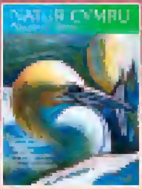
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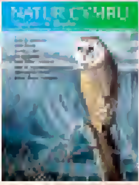
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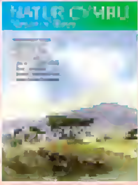
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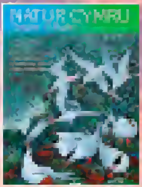
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Mel Parry Photo Library

Llanlleiana, Anglesey

National Trust

Giant hogweed

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